
بسم الله الرحمن الرحيم

القرآن

تبارَکَ الّذی بِیَدِهِ المُلک وَهُوَ عَلیٰ کُلّ شیءٍ قَدِیر (۱)

اَلّذی خَلَقَ المَوتَ وَالحَیٰوةَ لِیَبلُوَکُم اَیُّکُم اَحسَنُ عَمَلا وَهُوَالعَزیزُ الغَفُور (۲)

المُلک

In the name of Allah, the Beneficent, the Merciful.

Blessed is He in Whose hand is the Sovereignty, and, He is Able to do all things. (1)

Who hath created life and death that He may try you which of you is best in conduct; and He is the Mighty, the Forgiving, (2) **(Al-Mulk)**

الحدیث

Giving the Islamic greetings of peace

The Prophet (S.A.W.) said, "You will not enter Paradise until you believe and you will not believe until you love one another. Shall I guide you to something that if you do it, you will love each other? Spread the greetings of peace (Salaam) among yourselves".

(Sahih Muslim)

List of Contents

MESSAGE

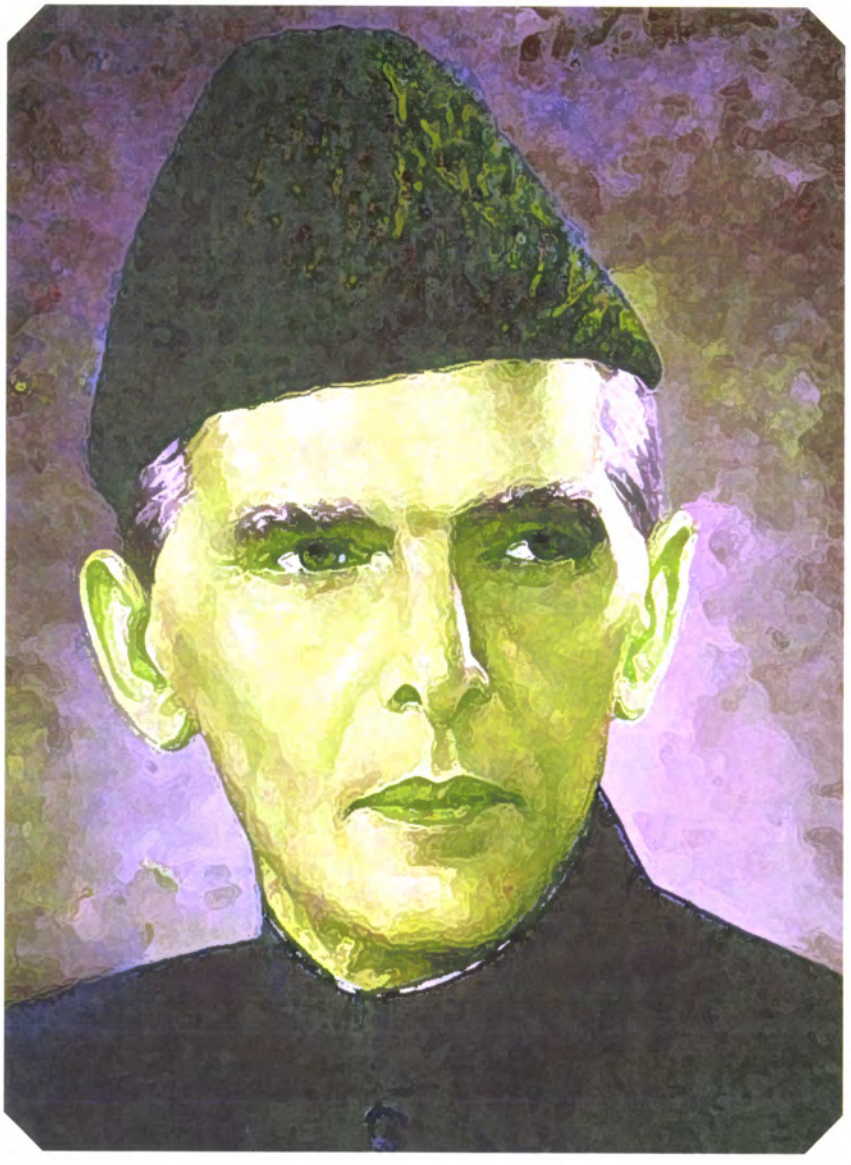
The Dow Class of 1984, when it celebrates its 25 years of graduation and reunion deserves a word of praise. The tradition of giving back to the parent institution has been kept alive by Dowite '84 as it has taken up the project of renovation and up gradation of the Gyne OT complex.

Being a Dowite myself I feel a great pride representing such an institution which yields year after year students who are dedicated to the betterment of the community and also have courage of taking up task of up gradation of their Alma Mater. The department of Gynecology and Obstetrics deserves a maximum concern as it caters to the largest number of patients. The Gyne OT complex was neglected for quite a few years but all praises and felicitations for the Class of '84 as they are on the way to create an environment and service provision which would go a long way in the history of Civil Hospital Karachi.

In addition to the project the academic sessions of the Class of '84 Reunion program will provide an occasion of exchange of thoughts, research and experiences. It will also provide a reunion and strengthening of friendly ties among the participants of the sessions.

I wish the Class of '84 a happy reunion and all the best for the up gradation of the Gyne OT project.

Dr Ishrat-ul-Ebad Khan
Chancellor
Dow University of Health Sciences
Karachi.



"My message to you all is of hope, courage and confidence. Let us mobilize all our resources in a systematic and organized way and tackle the grave issues that confront us with grim determination and discipline worthy of a great nation."

Eid-ul-Azha Message to the Nation
October 24, 1947

MESSAGE

The Silver Jubilee Reunion of Class 84 of the Dow Medical College is indeed an occasion of great remembrance and giving back to the parent institution. I really appreciate the efforts and work of many colleagues in recent years and follow the tradition of doing well for the patients of our Alma-Mater in the form of different projects by other colleagues. These projects have become a source of continuous upgrading of Civil Hospital and it is not only a healthy process but also a "SADQA-E-JAARIA".

The project of improvement and up gradation of Gynea OT Complex refers to the vision of Class of 84 who have decided to take up a much neglected section the hospital. This project renovation is required not only to make the environment patient friendly, but also to increase the level of service provided. I hope that the efforts the dedicated group of Class of 84 would yield best possible results.

The reunion of the class provides many friends to meet each other after a period of so many years and hence is an opportunity not only to exchange and update the personal experiences and research but also to strengthen the friendly ties of yesteryears. The academic session of this reunion will bring in the best local and international experts together, sharing their knowledge with each other and fellow colleagues and thus provide the propagation of knowledge which indeed is the need of the day.

I wish the Dowites 84 a Happy Reunion and success in all their endeavors and hope that the day of foreign colleagues is very pleasant and fruitful.

Dr. Sagheer Ahmed
Health Minsiter
Government of Sindh

MESSAGE

On behalf of the Dow University of Health Sciences and on my own behalf I felicitate the Class of 1984 of the Dow Medical College on the occasion of they having completed twenty five years since graduation. Your cohort is widely distributed throughout the country and all over the world. It is encouraging to learn that you have decided to commemorate this milestone in the city where this journey began.

The Alumni of Dow has set a healthy tradition of visiting their alma mater regularly. A number of them, individually and collectively, have been contributing their time to share their experiences and expertise with the faculty and students of this institution. Likewise, many batches have sponsored projects at the college and its hospitals so that both students and patients coming to these facilities are benefitted.

Dow University of Health Sciences is justifiably proud of having inherited from its constituent institutions, such a large number of dedicated persons who are always willing to fondly recall their yesteryears as undergraduates, and spare no effort to enrich these institutions further.

Some of your class fellows may be unable to join in these celebrations due to unavoidable reasons, and I am sure they shall be missed. Some of them may have passed away, may the Almighty rest their soul in peace Ameen.

I wish your Silver Jubilee Reunion all the best.

Professor Masood Hameed Khan
Vice Chancellor
Dow University of Health Sciences
Karachi.

MESSAGE

On the occasion of their twenty fifth year since graduation of the Class of 1984, Dow Medical College, I feel it a singular privilege to be asked to write this message for their up coming souvenir.

It is heartening to note that the noble tradition set by the previous batches of Dowite's is very much alive and blooming. Dow Medical College which is now a constituent institution of the Dow University of Health Sciences is duly proud of both its alumni and its students. All those who gain admission to this institution are the very best of their cohort of students passing high school examinations. As medical students, they savor the fruits of their hard work and sustain their medical education relentlessly. You are spread all across the globe and this occasion will give you a chance to refresh old memories.

The Class of '84 has decided to gift a self contained Gynecology & Obstetrics Theatre Complex to the Civil Hospital Karachi. Women, unfortunately are by and large the underprivileged in Pakistan, and suffer from health problems that are essentially preventable. Although pregnancy is a normal physiological phenomenon, it is fraught with danger for them. Lacking awareness and education. a large number of our females suffer silently from various gynecological problems, which too are by and large, preventable or treatable.

A dedicated OT Complex, as envisaged by your class, in Karachi's biggest hospital would be a useful addition both for management of these problems as well as for teaching and research. I end this message by assuring you that Dow University of Health Sciences is committed to uphold the traditions of all its constituent institutions.

Wishing you all, the very best.

Prof. Meher F. Hansotia
Registrar
Dow University of Health Sciences
Karachi.

MESSAGE

I feel honoured to have been given the opportunity to give a message for the class re-union of Dow 84 graduates. In fact by starting a project in Civil Hospital, it is not my message to you but your message to me. The efforts undertaken by you show your energy, vigour and care for humanity. The path is right though the terrain may be difficult and full of hurdles.Through this statement I acknowledge the receipt of your honour.

I am extremely happy with the clarity of your message, the vision and the mission. I started a similar journey earlier on probably by chance,and I feel duty bound to warn of the hurdles and stumbles you may encounter on this journey. The first one is greed. There is an end to man's need but there is not end to man's greed. The second one is perception of hopelessness. In societies like us an aura of hopelessness is created to flect that nothing good can be done here. The third confusing intersection is the understanding of the objective of life.

The travel beyond is difficult but fascinating. I consider that my future generation has a clear vision and the mission. The objectives are clear though difficult. The message I get today is encouraging and I hope to receive same in future. Keep me informed.

Prof. Adib Rizvi
S.I.U.T., Karachi

MESSAGE

I am pleased to be asked to write a message on the 25th Anniversary of the batch of the 1984.

Dow Medical College is a unique institution. It's standards of academics were, even in the retrospect outstanding. Being a student of DMC was in itself considered a distinction, a feeling that is undiminished even so many years after my retirement. This feeling became even more having been a teacher at the DMC after I had obtained my MRCP, Ed.

I remember what a pleasure it was to take clinical teaching sessions. The discussions were always lively. The students' participation was pleasing; their understanding of what was delivered to them was of high order. I used to enjoy making my questions or queries not direct, but the question was hidden in the implications of statement I used to prepare for the sessions. I would wait to see if they were able to make out the just of the question. Most of the time there would be at least 2 students in the batch of 8 or 10 who would grasp what was wanted. That understanding of the question was in itself a measure of their understanding of the subject.

The discipline of the students in the college ground was generally of high order. I recall another incident in which a student threw the remain of a guava that he had finished eating, on the ground. Another student who happened to be following him picked it up and took it into the errant person and said 'Sir you drop something'.

So, you should be happy that you are in an institution of high order and great past, I hope you live up to it's past, and perhaps make the present that might shadow the past.
With best wishes.

Prof. Akhter Ahmed
Retd. Prof. & Head, Neuurology,
Dow Medical College,
Civil Hospital Karachi

MESSAGE

It gives us great pleasure to know that the class of 1984 is celebrating the silver jubilee of their graduation this year

We congratulate you on this glorious occasion. As we remember this class was outstanding not only in their academics but also in extracurricular and lively activities. We are over joyous to see that this class has produced not few but many doctors who have excelled in their field.

It gives us a sense of pride that you have made best use of whatever little guidance we could give you.

On this occasion of rejoicing we wish all of you great success and happy prosperous life.

Prof. M. Akram
Asst. Prof. Salma Akram

MESSAGE

It gives me great pleasure to express myself, as a senior colleague on the occasion of Silver Jubilee of Dowites Batch of 84, Revisiting the Alma mater and their teachers on this occasion is an splendid tradition of students of Dow Medical College. This takes their teachers out of "empty nest Syndrome". This is not only a time of celebration but a high time to review ones own achievements, failures and individual's contribution to the family and to the profession; and to see whether one really has come up to the expectations of the institution and the teachers.

Dow Medicl College has made exemplary progress in the form of Dow University of Health Sciences during last 5 years. However Civil Hospital Karachi. the nursery of doctors, needs a lot to be done to give it a shape of a 21st century Hospital.

I pray for the success of Batch of 84 in this regard.

Prof. Muhammad Masroor
Medical Unit - IV,
Civil Hospital Karachi

MESSAGE

It is heartening to see that Dowites '84 have organized a reunion to mark 25 years since their graduation. The fact that makes me most happy is to see that this celebration is linked to a contribution for their Alma Mata – the plan to upgrade the Gynecology OT complex will benefit so many women and families who come to Civil Hospital Karachi.

When I joined Dow Medical College in 1971 as an Assistant Professor, the OT complex was primitive in terms of equipment and facilities. We tried to make up for the structural deficiencies by putting our heart and soul into looking after the patients that came to us. There are so many times that I have looked at a woman in pain and distress who has nowhere else to turn to – those moments served to reaffirm my commitment to doing as much as I could with whatever facilities that were available. I hope I have been able to pass some of that commitment to the many young women and men who have been my students over the years.

Congratulate all of you on this occasion and hope that you will continue to serve with dedication and enthusiasm.

Prof. Noorjahan Samad
Retd. Prof. and Head, Gyne Unit III,
Civil Hospital Karachi

MESSAGE

The Silver Jubilee Year of Dow 1984 is a significant milestone in the history of this young group of doctors. It signifies a Class coming of age with a readiness to accept responsibility for its contribution to their Alma Mater for its development as well as providing a beacon of hope to all its peers both internationally and at home. Reflecting back on its 25 year journey and what they are doing now for Civil Hospital Karachi --- specifically redesigning and building of the Gynaecolobgy Operation Theatre and its running for three years --- can be very proud of what it is doing. This certainly deserves our entire accolade for its contribution to the health of the deprived women of the country as a whole affects directly the social and economic evolution of the poor parts of our city and indeed the Provinces of both Sindh and Baluchistan. At this important juncture we need to pause to acknowledge the contributions of those committed individuals who have raised funds mainly from the USA & UK as well as in Karachi. They have dedicated their time and money and endeavored sincerely to provide the patients a State of the Art facility. They have had many trials and tribulations encountered along this journey and can be very proud of its efforts for which they should be congratulated.

While you celebrate the Silver Jubilee, you must not lose focus of the mounting problems faced by our Health Sector. DMC has developed a lot especially after the establishment of DUHS and the untiring efforts of its Vice-Chancellor, Professor Masood Hameed Khan. CHK still has a long way to travel and we cannot afford to slacken when we are needed the most and also urgently need new zeal and enrichment from new supporters from our younger generation. The present MS, CHK is not only building a new modern Trauma Center but is also planning a totally new Master Plan for the hospital. Provision of funds for both the DUHS and CHK are being actively pursued by the Governor of Sindh and Chancellor of DUHS, Dr Ishrat-ul Ibad Khan. In fact he has been active in having extra funds allocated for the Health Sector in Sindh.

Our legacy to future generations must be that of a strong DMC, CHK, & SLGH within the compass of the DUHS that is responsive to their social and health needs. We must instill a deep sense of pride in our people and the young must be taught to respect, protect and revere our symbols and institutions.

As you celebrate your 25th anniversary let us be proud of what you all have achieved together and pledge to continue to strive to take DOW to greater heights with each passing year.

Prof. M Shafi Quraishy
former Principal DMC and Secretary Health,
Government of Sindh

MESSAGE

Dear Dowites 84

It gives me immense pleasure that I have been honored to pen down few lines for the souvenir being brought out by Dowites 1984. It is unique to Dowites, that amongst all the medical institutions of the country, it is Dowites who display proudly the name of their Alma mater after their medical degree. It is extremely praiseworthy that Dowites have started re-paying their debt to the community by upgrading the academic/service facilities of DMC (Now DUHS) & it's affiliated Civil Hospital Karachi. The Dowites 1984 have embarked on a crusade by sponsoring a project "Renovation of Gynae/ Obs Theater" aimed at upgrading this to a state of the art facilitiy.

It is very appropriate to quote a couplet here from the famous poet MIR

کہیں کیا جو پوچھے کوئی ہم سے میرؔ
جہاں میں تم آئے تھے کیا کر چلے

May Allah give us all the opportunity to accomplish a novel deed, appreciated by Him & Mankind.

کسبِ کمال کن کہ عزیز جہاں شوی

It is in such endeavors that mortal humans emulate and then excel angels in pleasing Almighty Allah. May Allah bestow on all Dowites His worldly and heavenly Rewards for the noble task they are sponsoring for the eternal good of their Profession, mankind & Alma mater.

I wish them glorious success in their novel venture. Aameen!

Prof. Mohammad Sharif Chaudhary
Past Principal and Professor of Cardiology
Dow Medical College
Karachi.

EDITORIAL

We are very grateful to Allah for giving us the courage and perseverance to compete the daunting and uphill tasks of getting together the souvenir in time for the reunion. This souvenir reveals the versatile talents of the Class of Dowite '84 and the collective efforts of the Souvenir Committee. While going through the pages we hope that you will reminiscence the times we had spent in our Alma Mater.

This souvenir is dedicated to all the graduates of the Dow Medical College, Class of 1984 especially to those amongst us who have transcended to the other world. We are happy to celebrate this occasion in the presence of our teachers, mentors and role models who played an important role in shaping our lives. We also remember with reverence those teachers who are no longer with us in person but are an integral part of our persona.

The Class listserve 'Dowite 1984@yahoogroups.com' has emerged as an informal institution discovering talents not known as well as nurturing and chiseling raw talents which is reflective in the showcase of this Souvenir. The souvenir has English and Urdu sections giving a wholesome representation to our literary pursuits. We have tried to maintain a moderate mood by putting together literary, academic, serious, humorous as well as entertaining articles, poems and pictures.

While going through this Souvenir please consider that this endeavor comes from a group of your class fellows with no prior experience but with a passion to compile a memorabilia and the contributions made are also from amateurs (excepting a few) of the same cohort. We appreciatively acknowledge the consistent tangible and non tangible contribution by friends within and outside Pakistan.

The Committee should not be held responsible for the content of the articles/poems published in this souvenir. The Committee members have tried their level best to maintain a neutral tone in the published articles and remove comments which may upset the readers, however retaining the original style of the authors.

Wishing you a most gratifying experience of reading this publication.

Felicitations on the occasion of Silver Jubilee Reunion!

Souvenir Committee Members

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DEJA VU DOW

Sarosh Salman Siddiqui

Dow dreams realized in June seventy seven
Eighty-fourians in ecstasy and seventh heaven

Physiology, Anatomy and Biochemistry
By Professors Afaq, Waheed and S Jaffery

Professor Shakir's Bio mix of Manto & Yousufi
Professor Mauzam's mauziz Histology

Special senses by Meher Jamal
Well taught and easy to recall

Naughty Paan stained Shabu of Anatomy
Smoky Smoke Drum of Physiology

Pharmacology and Pathology in third year
Adding confidence, shedding our fear

Generic names, organisms, classification to retain
Mnemonics more mnemonics keeping us all sane

Pharma in Professor Hameed's cool and fast pace
Qualifying our fingers for marathon race

Baba's dramatic climax with and
Striking his magic wand in hand

Professor Akram's info laden casual style
Our gall bladders squeezed extra bile

Madam Salma taught bacteriology
A Goddess from mythology

Passing daily under the greenwood tree
Favorite spot for boys to sit when free

Medical Juris, in fourth year
Omar Khan was the professor

Toxicology by Professor Farhat did intoxicate
But Professor Tariq managed his sturdy gait

Professor's Iliyas & Ansari of community medicine
Clean, loving dedicated heterozygous twins

Professor Hansotia's zorastrian style benign
Impetus for Sidwa to write & refine

Surgery taught so aptly
By Professor Fazal-e-Elahi

Professor K. Nazli well groomed
Surgery lectures all perfumed

Medicine by Professor Saleh Memon
Pleasant soft & words well chosen

Professor Rehmatulah demeanor casual
Made Medicine easy and so usual

Professor Sharif Chaudary of cardiology
Heart sounds murmurs taught aptly

Professor's Ellahi Buksh & Nargis
A handsome couple hard to miss

Madam Razia Ansari tough to deal
A heart of gold that she concealed

Madam Noorjahan Samad elegant
Meticulous, thorough & diligent

Words small for Professor Adeeb Rizvi
A God indeed in nephro urology

Professors Qayyum, S. Zaidi & Jaffery
Toured us through E.N.T mazes thoroughly

Professor M.M Hasan of the subject Eye
Expert from retinal detachment to stye

Snack corner, cafetaria and girls dining hall
Eating, politics, singing, dancing rarely a brawl

Cranial nerves, muscle strength, reflexes sensory motor
Thoroughly taught by kind gentle Akhtar Ahmad Professor

Psychiatric disorders bipolar, schizophrenia& depression
By Professor Zaheer Khan cognition still our possession

Orthopedics by articulate Professor Jokhio
Designed splints to support torso, limbs & elbow

Pediatrics alive & radiant by Professor Gaffar Billoo
Madam Zeenat Isani's contribution to the same too

Real life situations encountered in emergency
Interesting, different and at times scary

Café bacteria catered to night duty tea desire
Maska bun to extinguish empty stomach fire

Housejob days & associations abruptly ended
Most of us to post graduation transcended

Years flew away enriching all of us differently
Reunion of Dow 84ian family now at silver jubilee

You can never own something that was never yours. So let's stop gripping on things we expect to last forever. Nothing lasts forever. Forever is a lie, everything is transitory, so while you have things in your hand, put in mind that it's only borrowed, so that someday, when it's gone, it won't take you eternity just to let it go.

History of
DOW UNIVERSITY OF HEALTH SCIENCES

Qadir Sheikh

Dow Medical College is the most respected medical college and one of the oldest education institutions of Pakistan. It has produced a large number of well-trained physicians, who are now spread all over the world, establishing themselves as authorities in different areas of medicine. The college is situated in Karachi, the largest city of the country; however, it was first established in Hyderabad as a small college. Until 2003, Dow Medical College was an affiliate institution of the University of Karachi. The administrators and faculty as well as influential alumni of the college as well as sister institutions (Sindh Medical College and Ojha Insitute of Chest Diseases) had been trying, for several years, to have the provincial government merge these institutions and create a health sciences university. This effort finally succeeded in 2003 and the college and its sister institutes now enjoy full university charter, together known as the Dow University of Health Sciences.

History

Before independence, in 1941, the Indian Medical Council, in order to introduce a uniform standard of medical education, abolished substandard schools, and raised many others to a university level. Through the untiring efforts of Dr. Holmisted, the medical school at Hyderabad was granted a status of a degree college in 1941, by the government of Sindh. That same year, the government of Sindh appointed a committee to implement this decision, and to explore the feasibility of moving this medical school from Hyderabad to Karachi.

In 1943, this committee which consisted of: Dr. Hermends R. Wadhwani, the then Minister of Public Health; Col. J. E. Gray, the then Inspector General of civil hospitals; and Mr. Abhichand, the then Executive Engineer, developed the plans for the Dow Medical College. Major (Later Lt. Col.) Aziz K. M. Khan continued this project during the absence of Col. Gray. The college was inaugurated by Governor Maudie of Sindh in Hyderabad in 1945. The first batch of the admitted students consisted of forty-five students among which there was a Muslim girl student named Ms. Fahmida Shaikh.

In 1944, the University of Bombay granted a temporary affiliation, which was later withdrawn on the recommendation of a three member committee consisting of Dr. Molgonkar, Dr. Yodh and Col. Jalal M. Shah. However, this committee recommended moving this institution to Karachi and later the affiliation to University of Bombay was restored for the years 1945 and 1946.

The foundation stone of the new building was laid in Karachi on December 10, 1945 by Sir Hugh Dow, the then Governor of Sindh, after whom this medical college

was named. The medical college was transferred from Hyderabad to Karachi on December 31, 1945. It was temporarily housed in the N.J.V. High School building. Dow Medical College started functioning in the new building in the November of 1946. In the December of 1946, Bombay University's team of inspectors recommended to continue its affiliation for the pre-clinical years and a conditional affiliation for the clinical subjects.

In 1947, when Pakistan gained its independence, Dow Medical College came under University of Sindh's jurisdiction. A new committee was appointed by the University of Sindh. It visited the institution on December 22nd 1947 and recommended full affiliation. It remained under Government of Sindh until the central government took over on July 8, 1951. Pakistan Medical and Dental Council gave its recognition to the College in 1953. On March 7, 1962, it came under the jurisdiction of West Pakistan Government. With the dissolution of "One Unit", Sindh Government assumed its control again on June 30, 1970. In 1953, the Student Union was established. The Student Union published its first magazine in 1950 which was later named "DOWLITE" in 1951.

In 1961, the College Mosque was built. In 1968 Arag Auditorium was built with the efforts of Surgeon A. Rahim. In 1973, the Main Auditorium, the new medical library and common room building were established. The Main Auditorium was later named after Prof. Khawaja Moin. The last major addition to Dow medical College was the "Hygiene Block" building in 1981.

In years spanning from 1997-1999, a major project of modernization of the College was undertaken. The whole library system was renovated with the addition of the latest audio-visual equipments, computers and multimedia learning resources for the medical students.

The Dow Medical College now known as Dow University of Health Sciences was upgraded to University status on Dec 27, 2003. Sindh Governor Dr Ishratul Ibad Khan has promulgated the ordinance pertaining to establishment of Dow University of Health Sciences in the city. The first public sector medical university in the city would initially comprise Dow Medical College, Sindh Medical College and Ojha Institute of Chest Diseases as constituent academic units.

The first vice-chancellor of newly established Dow University of Health Sciences, Dr Masood Hameed Khan, assumed responsibilities of new office on on Jan 14, 2004.

The chancellor of the public sector varsities in the province, Sindh, Governor Dr Ishratul Ibad Khan, had promulgated the ordinance pertaining to the second public sector medical university on Dec 27, 2003 while Dr Hameed was named as vice-chancellor of the university on Jan 3, 2004.

The Dow University of Health Sciences (DUHS) is working on a plan for the development of a number of institutes for postgraduate studies at its Ojha Institute of Chest Diseases and Sindh Medical College campuses. DUHS now has 23 Institutes which includes three undergraduate medical and one dental college. Dow Medical College which we all know is still at the same site although a lot has

changed academically there with the establishment of a Professional Development Center established in 2005, which caters to both undergraduate and post graduate students, it has branches in the other two medical colleges as well as the dental college. Sindh Medical College is the second medical college while Dow International Medical College is this year admitting students to its fourth batch. It has been established at the Ojha Campus of Dow in a specifically designed building and admits children of Overseas Pakistanis. The dental college is Dr Isharat ul Ibad Khan Institute of Oral Health Sciences which was established in 2006 in a fully renovated 150 year old building in which Sindh Medical College started. I will not go into details of other institutes but just for information of all the FIRST Convocation of Dow University of Health Sciences is to be held on Sunday 16th August 2009 in which graduates from DMC and SMC will be joined by Post RN BSc nursing graduates from the Institute of Nursing again established at OJHA campus.

The university currently has two undergraduate colleges, the Dow Medical College (DMC) and the Sindh Medical College (SMC), and one postgraduate medical institute. The DUHS Karachi Act was passed by the provincial assembly this year keeping in view the growth and development of Karachi and importance of postgraduate studies in health sciences.

On its Dow Medical College campus, the university has already started construction of buildings for administrative and examination offices.

At the Ojha institute, nearly 150-acre land is available, where a 500-bed hospital and a college will be established. The Institute of Basic Sciences; the Institute of Postgraduate Studies, the Institute of Physical Medicine and Rehabilitation; and the Institute of Medical Technology will also be set up on the Ojha campus.

At the SMC (Sind Medical College) premises, an institute of dental medicine and an institute of bio-medical engineering will be set up. Both the institutes would likely to cost around Rs118 million.

Dow Medical College is a constituent college of the Dow University of Health Sciences, established on 29th December 2003.

Most of the physicians from Pakistan who have graduated from Dow Medical College are working in the US and the UK. Their services have been recognized by leading medical experts around the world.

Bienfaiteur

(Designations as they were in 1984)

Anatomy
Prof. Abdul Waheed
Assoc. Prof. Moazzam Ali Khan
Assoc. Prof. Rashida Raza Arain
Asstt. Prof. Asif Ali Nur

Physiology
Prof. Afaq Ahmed
Asstt. Prof. Nazira Shakir
Asstt. Prof. Mehar Jamal
Asstt. Prof. Fakhar Shariq

Biochemistry
Prof. Shakir Ali Jaffery

Pharmacology
Prof. Abdul Hameed

Pathology
Assoc. Prof. Mohammed Akram
Asstt. Prof. Salma Akram

Community Medicine
Prof. A. Ansari
Prof. M. Iliyas
Asstt. Prof. Zubair Ahmed
Asstt. Prof. Mehar Hansotia

Pediatrics
Prof. A. Ghaffar Billoo
Asstt Prof. D.S. Akram
Asstt. Prof Inkisar

Medicine
Prof. Malik Ali Shaikh
Prof. Shamsuddin Rahimtoola
Assoc. Prof. Khurshid Memon
Asstt. Prof. Mashoor Alam
Asstt Prof. M. Shafi Qureshi
Asstt. Prof. Ellahi Bux Soomro

Cardiology
Prof. M. Sharif Chaudhry

Neurology
Prof. Akhter Ahmed

Dermatology
Prof. S. Zafar Ahmed

Psychiatry
Assoc. Prof. M. Zaheer Khan

Surgery
Prof. Fazal Elahi
Prof. Kishwar Nazli Mahmood
Prof. A. Karim Siddiqui
Prof. Irshad Wahid
Prof. M. B. Jamali
Assoc. Prof. Mushtaq Ahmed
Assoc. Prof. A. Rahim Vohra
Asstt. Prof. M. A. Noorani
Asstt. Prof. Mohammed Sarwar

Urology
Assoc. Prof. S. Adibul Hasan Rizvi

Plastic surgery
Prof. Khalid M. Durrani

Orthopedics
Prof. A. M. Ansari
Prof. Inayatullah Jokhio
Asstt. Prof. Mohammad Idrees

ObGyn
Prof. Razia Latif Ansari
Prof. A. Majid Memon
Prof. Noor Jehan Samad
Assoc. Prof. Zahida Ahmed
Asstt. Prof. Nargis Soomro
Asstt. Prof. Khursheed J. Noorani
Asstt. Prof. Nusrat H Khan
Asstt. Prof. Haleema Hashmi

Bienfaiteur

Ophthalmology
Prof. M. M. Hasan, Principal
Prof. M. Saleh Memon
Assoc. Prof. Kh. Shariful Hasan
Assoc. Prof. Taj Mohammad Soomro

Otorhinolaryngology
Prof. I. H. Jaffery
Prof. M. A. Qayyum
Assoc. Prof. Shabieh Haider Zaidi

Anesthesia
Asstt. Prof. S. Tipu Sultan
Asstt. Prof. Tasneem Alvi

Radiology
Prof. Matin Ahmed Khan

Madam Razia Latif Ansari, a teacher of her kind, a dictator from outside, but a soft humble lady from inside.

Let me tell you a short incidence that happened during my 3rd year medical college.

One day during my Obs/Gyn. posting, she took my journal and wrote some thing on it. Even after a lot of effort I could not make out the remarks, which she had put down.

With fear and awe, I approached Madam Razia and inquired about the remarks on my Journal, she shouted at me and said, GADHAY (ASS) it says improve your hand writing.

I abruptly said , Mam, but I was also not able to read your writing....

and you can well imagine what happened next !!!!!!

Mussadiq Jafri

Winter CME Session at Dow University of Health Sciences
Silver Jubilee of Dow Class of 1984
Sharing Twenty Five Years of Learning
8 CME Hours

Day 1- December 30th 2009 , Wednesday at Arag Auditorium
Dow University of Health Sciences, Karachi

9:30 to 9:45a.m Welcome address

9:45 to 11:25 am : Session A: Women's Health: Facing the Realities

9:45 to 10:10 am : Different Faces of Polycystic Ovarian Syndrome (PCOS)
Dr. Shahnaz Akbar, Consultant Gynaecologist, U.K

10:10 to 10:35 am : Management of Sexual Assault and Domestic Violence
Dr.Ruhi A. Jawad, Forensic Gynaecologist, Metropolitan Police London, U.K

10:35 to 11:00 am : Situation of Women and Children in Pakistan. One Step Forward, Two Steps Backwards
Dr. Asif Aslam, Health Specialist, UNICEF, Pakistan.

11:00 to 11:25am : Gender Mainstreaming in Sexual and Reproductive Health
Dr. Yasmeen Qazi, Senior Country Advisor,
The David and Lucile Packard Foundation, Pakistan.

11:30 to 12 pm: Tea

12:00 – 1:40 pm : Session B. Better Programs: Safer Hospitals

12:00 to 12:25 pm : Developing an Academic Cardiothoracic Program in Pakistan
Dr. Hasanat Sharif, Chief of Cardiothoracic Surgery, Aga Khan University Hospital, Karachi

12:25 to 12:50 pm : Hospital Management, the New Wave in U.S.A
Dr. Amjad Ali. Director of Hospital Management, Kentucky U.S.A

12:50 to 1:15 pm : Challenges of MRSA and Other Multidrug Resistant Organisms
Dr. Zeenat Rahman, Epidemiologist at the Pennsylvania Department of Health, U.S.A

1:15 to 1:40 pm : Infection Control in the Public Sector
Dr. Shehla Baqi, Associate Professor in Infectious Diseases at S.I.U.T., Karachi.

Day 2- December 31st Thursday at Arag Auditorium
Dow University of Health Sciences, Karachi

9:45 to 10:35 am : Session C: Essentials of Primary Care

9:45 to 10:10 am : Hyperlipidemia: Reducing Residual Cardiovascular Disease Risk
Dr. Kamran Qureshi, Medical Director of Prime Care Medical Group of Hemet,California, U.S.A.

10:10 to 10: 35 am : Diabetes Mellitus: What's New?
Dr. Najm-ul-Islam. Professor of Medicine, Consultant Endocrinologist at Aga Khan University Hospital, Karachi.

10:35 am to 11:25 am : Session B: Relieving Pain and Suffering

10: 35 to 11:00 am : Palliative Care
Dr. Humaira Jamal, Consultant in Palliative Medicine, UK

11:00 to 11:25 am : Interventional Pain Medicine in the New Millennium: Interventional Approach to Neuropathic Pain and Chronic Back Pain
Dr. Shahid Rashid: President and Founder of South Texas Clinic for Pain Management, U.S.A.

11:30 to 12 p.m: Tea

12:00 p.m – 1:40 pm : Session D. Challenging Subspecialties

12:00 to 12:25 pm : My Experience at Children's Hospital, Lahore
Dr. Seema Qayyum, Head of the Department of Paediatric Ophthalmology, Lahore

12:25 to 12:50 pm : Autism Spectrum Disorders: an Update
Dr. Asma Jamil Sadiq, Director of the Division of Developmental and Behavioral Paediatrics, New York, U.S.A

12:50 to 1:15 pm : First Case in the World of One Stage Reconstruction of Facial Acid Burn with Dermal Substitute
Dr. Mohammad Jawad, Plastic, Reconstructive and Aesthetic Surgeon, U.K.

1:15 to 1:40 pm : Paediatric Oncology: The Situation in Pakistan
Dr. Shamvil Ashraf, CEO of the Children's Cancer Hospital, Karachi

Workshops: 4 CME Hours each

December 30th Wednesday at DUHS from 9:30 am to 1:30 pm
Center of Professional Development

Communication Skills: The Art of Medicine
Dr. Bushra Nadeem: Specialist Paediatrician at Royal Hospital, Oman

Medicine is a science which deals with a sensitive group of people and challenging situations. Good communication is needed at every step, right from the first encounter, till the patient is discharged to home. Communication skills must be taught to all health care workers as an integral part of the Art of Medicine.

Target Audience :
Undergraduate and post graduate students preparing for MBBS, DCH, MCPS, FCPS, CSA / USMLE, MRCPCH, General Practitioners

December 30th Wednesday at DUHS from 9:30 am to 1:30 pm at Computer Skills Laboratory.

Hands-On SPSS
Prof. Muhammad Siddiqi: Vice Principal & Head of Department of Community Medicine, Bahria University Medical & Dental College.

Defining the project

Sarosh and Kausar

Vision

To develop a Model Gynecology and Obstetrics Operation Theatre with Quality Assurance (QA) systems, to be replicated in other government and non government setups within a defined budget

Amended

To develop replicable, cost-effective and quality systems ensured prototype of a Model OBGYN Operation Theatre (OT).

Mission statement

- To contribute towards improving women and new born health by decreasing morbidity and mortality in surgical interventions at Civil Hospital Karachi
- To provide effective / efficient work environment to improve health indicators within the facility
- To demonstrate implementation of QA systems in pubic sector with constraints
- To institutionalize QA in the CHK Gynecology and Obstetrics OT

Amended

To improve health of a female and newborn by:

- Reducing morbidity and mortality during surgical interventions at Civil Hospital Karachi
- Providing effective /efficient work environment for improved health indicators within the facility
- Demonstrating the implementation of QA systems in pubic sector with constraints
- Institutionalizing QA in the CHK OBGYN OT.
- Providing quality follow up and post-op care to the patients.
- Ensuring the development of a replicable prototype for the benefit of other OBGYN OT facilities.

Values

Collaboration (Private Public Partnership)
Team work
Selflessness
Respect for all
Ethics

- Justice
- Beneficence
- Non-maleficence
- Utility
- Autonomy

1. Develop a complete gift package in the form of a renovated OBGYN Operation Theatre as agreed upon by the stakeholders with in the identified time frame
2. Adapt / replicate and implement QA mechanism from Civil Hospital OT project and other similar international projects

3. Educate the staff of OBGYN OT in QA
4. Monitor and evaluate the process, output and outcomes and compare with baseline
5. Disseminate the information for replication or adaption at other similar health care facilities
6. Develop a manual for training health care teams for QA

Rationale

Class project of Dow Class of 1984 is a part of giving back to Dow/CHK upon completion of 25 years since graduation

This project was selected because of the following reasons

1. Within CHK
2. The number of beneficiaries would be substantial
3. Suited our budget - cost beneficent
4. Has an educational component attached to it
5. A better working environment leads to effectiveness and efficiency of the health care team leading to improved services and economy
6. Large number of class fellows relate to it and a lot of interest has been generated

Intended to be done by:

Input from the entire Class of 1984, immediate management will be done by the management committee. (annex 1)

Philosophical framework

- Maximum utilization of space
- State of the art within the given budget
- Overseeing definitely for 3 years and ideally for 5 years
- Reviewing the service delivery
- Cost of the project has been more or less agreed upon and no major changes will be acceptable (Ejaz Kashaf & Shamvil Ashraf)

Facets

Structure – construction
Furniture and fixtures

Equipment (replace within warranty period if needed, persuasion to the vendors to provide best warranty terms)

Management (by managing committee)

Policies to be devised prior to the project and then revised and updated as and when needed (as issues arise in execution of the project)

One time supply (gloves, bandages, gauze, hexidine etc) at the time of handing over the Project Committee is resposible

The project: up gradation / renovation of the OBGYN elective OT

Tentative date for initiation and completion:
Initiation : Jan –Feb 2010 Time limitation is a constraint
Completion April-May 2010

Stakeholder
Dow Class of 84
Health care team
Surgeons using the OT
Anesthetists
Nursing staff
OT technicians
MS CHK
Contractor (during the construction)
Architect (during the project development)
Patients

Finances : To be provided by DOWITE-84 ALUMNI ASSOCIATION; Payment through cheques only with rare exceptions.

Problems: funds will come after NGO is registered Priority 1 – NGO registration

Task and Time schedule
(Use a MS Project or a GANT Chart with Timeline, Tasks and their indicators)
- Approval from class done
- Registration of the NGO done
- Letter to the MS, CHK done
- Architectural design
- Meeting with MS, Professors of OBGYN, Anesthetists, Architect, managing committee representative
- Contractor.
- Supervision
- Budget manager
- MoU with all stake holders

Completion – 2-3mth.s from the initiation.

Deliverables
1. structure
2. equipment
3. services

Milestones
Legal issues
1. Registration of the NGO (Done)
2. MS letter (Done)
3. Opening of bank account(Done)
4. Collection /transfer of funds(Initiated)

Structure
5. Acquisition of venue

6. Formation of structure committee
7. Contract signed and approved with architect and contractor
8. Token money to contractor (payment in phases)

Equipment
9. Finalized list of equipment
10. Tenders called
11. Formation of a equipment committee
12. Selection of equipment

Services
13. Audit, forms,
14. QA protocol

Technical glitches which may cause delay in completion
15. Political conditions
16. Ramadan
17. Weather conditions etc
18. Other

Mock/Simulations of surgeries
19. Frequent
20. With all stakeholders (other than the class of 84)

Limitations
Very few active members (about 4% are actively involved in person)

Funds
Time (MS will change, how long can we close the main OBGYN OT)
Fulltime Classmate an OBGYN expert and involved

Exclusions
Usable things (medications, supplies etc) would not be supplied routinely (but provided at the ground breaking ceremony)

Periodic project review
Maintain a register for suggestions invited and taken into consideration if deemed appropriate
One member of Dow 84 to be working from 9-2 / or ask MS to depute one of Class 84 doctors working in CHK (e.g. Amerjee, Farzana Gaya)

Review with team members
Meetings to be called as and when required

Review with stakeholders
Regular and frequent

Budget

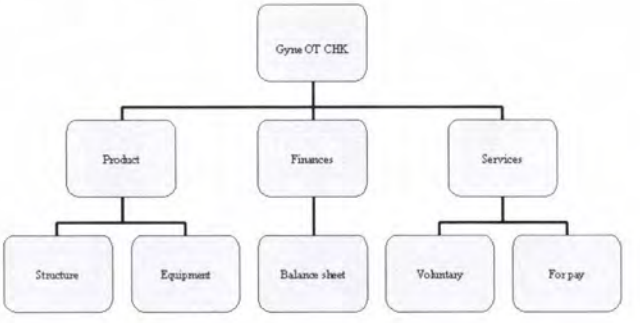
One Time Investment

	PKR in Millions	USD
Construction	7-10	
Furniture & Fixture	2-3	
Equipment	7-8	
Total	16-21	

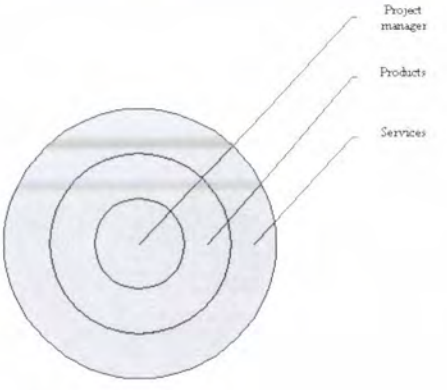
Running Expenses / Year x 3 Years

	PKR in Millions	USD
Salaries, training, software etc	0.5 -1	
Disposables and Supplies	2 - 3	
Total per year	2.5 -4	

Work breakdown structure



Organizational Breakdown Structure



DOWITE 84 ALUMINI ASSOCIATION

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	Muhammad Arif Akai
	Farzana Gaya (farzanagaya@hotmail.com)

25th Class reunion

Contributed by: *Imtiaz Khalid*

A long breath of accumulated years
Has sustained each day as lives veered
Taking pathways to the unforeseen
Following fragrant flowering dreams

Our twenty-fifth class reunion marks the occasion
How has distance altered the equation?
Smiles abound with freely given embraces
Recognizable voices give light to familiar faces

Amazed by college sweethearts still together
Married all these years... reflecting one another
Conversations revolve on the harmonious carousel
Past and present unite and simultaneously dwell

Sharing talk of whereabouts and growing families
Sharing blessings as well as overcoming tragedies
Attentively listening as seasoned old friends narrate
Remembering with a tribute... departed classmates

All united under the canopy of a vast star lit sky
Reminiscing joyfully before former teens say goodbye
As I drive home... youthful voices resound in my mind
Suspended in a moment of time... where age is not defined

JOURNEY OF GENERATIONS

Musarrat Sohail

The time goes on, the clock never stops but our perception of time is not that fast. It seems to be a matter of few days that we were a part of this prestigious institution with which my dear daughter is very much affiliated today. She is student of third year MBBS.

When I look back to my golden days I get nostalgic like any one who has pleasant memories. Gone are the days of teens and twenties when one feels at the top of the world. Emotions dominate the life, logic seems meaningless and one is full of ambitions and energy. No doubt, ageing brings maturity to life and blended with experience and tolerance, life gets relatively peaceful, comfortable and relaxed but one cannot stop recalling those memorable days.

The college, in those days, was certainly crowded as each class had 400 plus students and collectively more than 2000 students, at a time, were enrolled. The numbers of outsiders were an addition to it. The classrooms, sports arena, canteens and college points could hardly accommodate this huge number but the hearts were wide open and tolerance was plentiful and subsequently the atmosphere was generally pleasant.

How can I forget the days of union elections when parties used to do the politics of ideology rather than that of militancy. No doubt issues were also scandalized but aggression was rarely seen and the climax was the announcement of election results, vote by vote, for the whole night, with scenes of rejoice and sorrow, seen outside among workers of different parties.

The teachers were duly respected and many of them deserved the respect. There were many who can still be admired for their teaching skills and lasting impression but I would like to mention only two of my worthy teachers. Dr. Shakir Ali Jafri, the professor of biochemistry, had an impressive style of teaching and it were his effective communication skills that used to attract students to his class. His was a dynamic personality as he was actively involved in coordinating extra curricular activities and other student affairs, as well. Another dynamic teacher in those days was Professor Razia Latif Ansari of department of Gynaecology & Obstetrics. I was closely associated with her in the period of my house job and during training for membership. She used to implement strict disciplinary rules and she was quite energetic and exemplary for juniors. I learnt a lot from her and strengthened my professional skills, while working under her supervision. I can simply say that she was a remarkable person. Both of the above mentioned persons are not in this world any more and I pray to Almighty for them and for all those teachers who are not with us today.

Things have changed in many ways.

In our period, majority in the class were boys and the girls used to get more attention and importance but in this era of open merit the girls have outnumbered boys and

total number of students have been reduced significantly due to reduction in number of seats. In our days almost all students used to enter the college from matric system but today significant number of students from A-levels also get admissions, thus creating a beautiful blend of different educational systems, culture and linguistic approach.

The student's approach towards studies is same but now more focused towards entry exams for post graduate qualifications at home and abroad. Teacher–student ratio is still not satisfactory and the introduction of new methodology in teaching and assessment has increased the problems of students probably due to lack of appropriate faculty training. Over all, the atmosphere of college has not changed much, the missing factor, off course, is the smell of Formalin from dissection hall which used to induce nausea in many of the new entries to the college, at least for the initial days.

Structure has also changed. Moin auditorium, Arag Auditorium and Anatomy Lecture hall are still present but the building which had boys canteen, union office and lending library has been replaced by a beautiful multi storied structure at the entrance of college which has improved the outlook of college.

Most important and significant change is the establishment of Dow University of Health Sciences which beside Dow Medical College also regulates teaching at Sindh Medical College, Dow International Medical College and other institutions. This has certainly raised the status of the college.

There are many things which are still unchanged. The area around college premises and many of the CHK buildings are still holding the same old congestion, overcrowding and unsatisfactory hygienic atmosphere although efforts have been made to improve facilities at hospital and like all other Alumni, we are also contributing to renovate gynae operation theatre.

On my recent visit to Dow Medical College I was in for a lot of surprises, of which a few I just shared with you guys. So many things have changed and yet some remain as they were 25 years back. I see students sitting around eating, chatting, having fun and most likely bunking classes and that instantly brings me back to our time spent at this place. I am re-living that life through my daughter's eyes and some of my colleagues who have their children studying there would agree. It certainly is a journey of generations and the lifecycle repeats itself. The most refreshing thing which I get inspired by is the optimism and commitment, seen in the eyes of my younger generation which gives me pride, strength and faith in the better future of our country against all odds. All I hope now is that they continue to make us proud like we did to our parents.

Lastly there is one fact that we should never forget. We, being doctors, have been given an honour and a huge responsibility from Allah the Almighty. It is not just a profession but also the best possible platform for the service of human beings. Therefore, being so lucky we should make the most of it and give full justice to our profession.

LET ME BE THE ONE

Sofia Rokerya

Let me be the one
To bring that change
However small
Which makes ____
The Difference.
That helps
Break the barriers
Of colour and region
Race, speech and religion.
Let me forget my pain
And hold the hand,
Whose needs
Are greater than mine.
Let me be the balm
To heal the heart, soul and body
That's more broken than mine
Let me share the dreams
That are more shattered than mine.
Let me be the one
To stretch _____
And reach out
To humanity.
Let me weave that fibre
Of strength,
In the fabric of tomorrow.
Please God
Let me be the one
Today!
Let me be the one
Now!

Dedicated to My Friends

'84 es mi amor

Shahid Rashid MD

Do I have words, answer is no
Seeds of love are hard to sow
Every praise makes me bow
I am humbled greatly though

Words of hate let forgo
Let this love make you glow
Friendship started long ago
Don't take this as quid pro quo

Taher , Mamloo let it go
You do care let it show
These words arrived apropos
Sarosh n Kauser stole the show

Asif Aslam proven pro
Under his guidance , I can grow
Can't compete with Ali though
Azhar, Qadir don't we know?

Minhaj yells from Toronto!
We lost Imdad in his cove
Elegance, fashion, jewels glow
Gulzar Fidai is true vogue

I worked hard than Sloppy Joe
I am not Vincent van gogh
I heard Shehla whispered low
Shahid please! wrap this show

Love is mixed in my dough
Join us in our chateau
Bravo bravo '84
'84 es mi amor

Medical Ethics

Iram Siddiqui

When a doctor enters the realm of his professional life, he or she is full of ideas to help his fellow beings. There is a passion and fervor to work for the needy, a dream to cure and achieve new milestones in health services the likes of which have never been seen. As we embark on our journey, we are taught that professionalism is the key to our success and never to compromise with the noble nature of this profession.

However, as seen in recent times, professionalism has become a relative term and very frequently one observes the boundaries of the Hippocratic Oath being transgressed. Now what role might religion play in this? For us Muslims, the answer is simple. Islam is a religion that not only focuses on the spiritual aspect of man but also his practical life. The principles laid down by the Quran and Sunnah allow a Muslim doctor to bring about a wonderful amalgamation of moral, spiritual and practical aspects in his daily life, to achieve an equilibrium that guarantees his success not only in this world but in the hereafter.

How do we define the medical profession? All knowledge including medicine is a part of Allah's knowledge as man would be ignorant had it not been for Allah S.W.T; Who as described in the Quran "taught man what he did not know" (96:5). Medical practice is a medium that brings Allah's (S.W.T) mercy accessible to everyone regardless of caste, creed, race or religion. It is a Fardh Kifaya, a duty on society that some of its members must carry in lieu of the whole.

Physicians should be a vehicle for delivering Allah's (S.W.T) justice on Earth. They should be patient, tolerant, trustworthy, well mannered, and maintain perfect composure. A physician should practice what he preaches, by taking care of his own self, and hence making an ideal example for others to follow.

He should remain updated about scientific progress and innovation because pursuit of knowledge is an act of worship as Allah (S.W.T) says in Quran, "Allah (S.W.T) will raise up the ranks of those of you who believed and those who have been given knowledge" (58:11). Physicians should be truthful and honest in all forms of communication and documentation. He should have good knowledge of jurisprudence and basics of fiqh, so he can advise patients in cases where religion and health co-exist. Above all he should be grateful to Allah (S.W.T) for making him capable to cure people's ailments and never be arrogant, proud, or indulge in self-praise as he is merely an instrument of Allah (S.W.T) in alleviating people's illnesses.

The releationship that a doctor shares with his colleagues should be brotherly and within the boundaries of respect, religion and customs. Doctors should work in harmony, and create an atmosphere conducive to progress and indulge in positive collaboration only. The Quran says, "And help one another in charity and piety but help not one another in sin and rancor" (5:2). They must remember they share a collective responsibility regarding planning and taking measures and developing traditions and regulations that are necessary to enable them to carry out their duties towards their patients and country to the best of their abilities. A doctor must help, guide and advise his colleagues especially his juniors and not

target their faults, tarnish their reputation or highlight their shortcomings. If a team of doctors and othetr health professionals is working as a unit, information and knowledge should be honestly shared and team spirit maintained. This co-operation must also be extended in personal lives, by helping a colleague or a member of his family inflicted by disease, as well as under conditions of stress, need, disability or death. The mutual relations between doctors should be constructive, not competitive.

The doctor exists for the patient's sake, and hence the patient is the master and the doctor at his service. The doctor's top priority is his patient's care, comfort and welfare. He should behave in a kind and considerate manner at all times. He must maintain the edicts of professional secrecy. His charity and tolerance should extend to the patient's family and well wishers as well. Where there is a lawful right of the doctor to earn fees for his services, what he charges in his private practice should be guarded by his conscience and the fact that Allah is Ever-Watchful and Ever-Knowing. Health is a basic necessity and not a luxury, hence if a doctor is faced with a situation where there is a poor and needy person who needs his services he should attend to him and not charge anything. As one gives to the poor it is to Allah S.W.T that he is giving and alms giving is not only due on material possessions but on knowledge and skills too. A doctor must always honor the high standards of this profession and hold it in the highest regard, never prescribing to activities of propaganda, receiving commissions or cutting earnings or similar misdoings.

Keeping other persons' secrets is decreed on all the Faithful ... especially doctors, for people willfully disclose their secrets and feelings to their doctors, confident of the time old heritage of Professional Secrecy. The Prophet (peace be upon Him) described the three signs of the hypocrite as: "He lies when he speaks, he breaks his promise and he betrays when confided in" (Sahi Bukhari). The doctor should put the seal of confidentiality on all information acquired by him through sight, hearing or deduction. Islamic spirit also requires that the legal system should stress the right of the patient to protect his secrets that he confides to his doctor.

So far we have discussed ethics with regards to daily life as practicing physicians, but how do these ethics apply during wartime? The answer is simple, regardless of the doctor's preferences and feelings, he should stick to the one and only duty of protecting life and treating ailment or casualty.

Where Islam carries provisions for the patient's rights, it also enlists criteria for protecting the practitioner which can be summarized in the following points.

1) Recognized certification
2) Acceptance of the Doctor by his patient and consent in all forms as deemed necessary.
3) Good faith on part of the Doctor and sole aim of curing his patient.
4) Absence of unacceptable fault as defined by medical by laws.

When we talk about saving lives, it is imperative we understand what it implies, human life is sacred and should not be intentionally taken except where indications are specified by Islamic Jurisprudence, all of which are outside the domain of medical profession. The sanctity of human Life covers all its stages including intrauterine life of the embryo and fetus. This can not be compromised by the doctor except for absolute medical necessity. Scientifically if a patient is prescribed dead and efforts are made to artificially preserve it, a

doctor must remember it is the process of life that the doctor aims to maintain and not the process of dying.

With regards to a doctor and his interaction in society, many aspects come to attention. Other than treating patients, preventive medicine is of utmost importance and also encouraged by Islam. The Quran says, "Let not your own hands push you into destruction" (2:195) As doctors, it is our responsibility to counsel our patients and general public on dangerous hazards and harmful habits such as smoking and drug consumption and advise them with regards to maintaining sexual sanctity to avoid the spread of venereal diseases currently on the rise. We must also teach others on how to live a long healthy productive life, tips on which are not just found in medical literature but also in the Quran and Sunnah of the prophet P.B.U.H always available to us. Society owes the doctor his right to be trusted, to live comfortably, to earn an adequate income and to keep his dignity.

We now discuss one of the most relevant topics today, that of Islam and bio-medical search ethics. There is no censorship in Islam on scientific research, be it academic to reveal the signs of Allah S.W.T in His creation, or applied aiming at the solution of a particular problem. According to Shari'ah it is permissible to adopt cloning techniques and genetic engineering in the area of germs, micro organisms, plants and animals in the context of Shari'ah's controlling rules that seek the interest of humans while avoiding corruption. Similarly organ donation is a much encouraged practice by Islam, as long as it is within permissible limits such as ensuring the donor can make a sound decision, and decides to donate not under pressure but by will. At the same time, it prohibits all cases in which a third party is interjected into the marital relationship, whether it is a womb (uterus), an ovum, sperm, or a body cell for the purpose of cloning. Cadaver organ donation is also encouraged as long as consent is given by the donor or his next of kin. Human cloning either by ordinary cloning or induced twin cloning or any other form that would lead to human reproduction is prohibited. As Allah S.W.T says in the Quran, "Do ye then see? The (human seed) that ye throw out, Is it ye who create it, or are We the Creator? We have decreed Death to be your common lot, and We are not to be frustrated from changing your Forms and creating you (again) in (Forms) that ye know not. And ye certainly know already the first form of creation: why then do ye not celebrate His praises>) (Al Waq'ah 56:58-62).

In the Western world ethics is a topic that came to the forefront relatively recently, and it is then that we Muslims took notice. However on the contrary the concept of medical ethics in Islam has existed since time immemorial and it is only a matter of research and discussion to bring it's principles to the limelight. In this article, the aim was to inform readers about the guidelines and boundaries Islam lays down for a practitioner in all walks of his prefessional life. If followed, they will bring success and earn the follower Allah's pleasure. Our profession allows us to garner blessings and rewards on almost a daily basis, and we must not let this opportunity go to waste.

References:

Islamic Code of Medical Ethics, First International Conference on Islamic Medicine, Kuwait, 1981.

Recommendations of the 9th Fiqh-Medical Seminar (Transformation, Additives in Food and Medicine and Substances, actions that nullify the Fasting.)

Freedom

SaroshSurraiyaShameemSiddiqi

TAKE MY BREATH AWAY

LET LOOSE THE PREY

LET MY SOUL SWAY

AWAY FROM MY CLAY

LET IT BE MY DAY

LET IT GO ASTRAY

OVER THE HILLS AND BAYS

UNDER THE WARM SUNRAYS

IN THE WATERFALL SPRAY

SWIRL THE RAINBOW TO PLAY

TOUCH THE STARRY BOUQUET

UPON THE CLOUDS TO STAY

SAVOUR GREEN AND NO GREY

BASK IN THE MILKY WAY

Cherishing Moments

A goodbye isn't painful unless you're never going to say hello again.

We are what we repeatedly do; excellence, then, is not an act but a habit – Aristotle

The further backward you look, the further forward you can see – Winston Churchill

Cherishing Moments





Never take life seriously. Nobody gets out alive anyway.



Life is like a train ride. We get on. We get off.
We get on again



Teamwork divides the task and multiplies the success.



DOWITE
1984
2009

Cherishing Moments















Cherishing Moments















DOWITE
1984
2009

Cherishing Moments

Truly great friends are hard to find, difficult to leave, and impossible to forget.

Not everything that can be counted counts, and not everything that counts can be counted~Albert Einstein

The rarest thing in the world is a woman who is pleased with photographs of herself~Elizabeth Metcalf

Friendship isn't a big thing - it's a million little things.

Feathers in the cap

Dr. Asif Aslam *(Tamgha e Imtiaz)*

Asif Aslam is a Dow graduate from the class of '84. He did his House Job at the Civil Hospital, Karachi. He did his Masters in Public Health from Harvard University in 1989. From 1985 to 1994, he was associated with the Department of Community Health Sciences, Aga Khan University, Karachi with responsibilities of teaching and management of primary health care initiative in the underprivileged areas of Karachi. He is currently associated with UNICEF as a Health Specialist with responsibilities of program management in children's health, nutrition, immunization and women's health. he has contributed to several conferences in Pakistan as well as abroad.

He is the author of several books in Urdu and contributes regularly to the English press. For his distinguished services, he has been honored with the Prime Minster's Literary Award in 1995 and the Tamgha-e-Imtiaz by the Government of Pakistan. He has recently been nominated as a "Books Ambassador" by the National Book Foundation, Islamabad.

Dr. Farhat Abbas *(Tamgha-e-Imtiaz)*

Dr Farhat Abbas, Interim Dean, Aga Khan University Medical College, was conferred the Tamgha-e-Imtiaz (medal of excellence) for his achievements in the field of medicine by the President of Islamic Republic of Pakistan.

He is a graduate from Dow Medical College in 1984, after of his General Surgery and Urology training at the AKU, he completed fellowships in Urologic Oncology at the University of Miami, at Baylor College of Medicine, Houston, Texas, USA. He re-joined AKU in 1998 as an Assistant Professor, promoted to Associate Professor in 1999 and to Professor in 2008. He is FCPS + FRCS of Edinburgh and Glasgow, UK, fellow of the European Board of Urology and fellow of the American College of Surgeons. Being the first Pakistani and second Asian to achieve this distinction, he was awarded the G. B. Ong Gold Medal in 1993 by the Royal College of Surgeons of Edinburgh, UK.

He has initiated and established complex surgical treatments for prostate and bladder cancer patients in Pakistan including radical prostatectomy for prostate cancer and creation of artificial urinary bladder using intestine following surgical removal of urinary bladder for bladder cancer, he has been pursuing molecular research. He has over 65 scientific papers, book chapters in international textbooks; has made national and international presentation, has been a speaker / Chair / faculty at national / international meetings and serves as a reviewer for national / international, peer-reviewed scientific journals.

He served as an executive member on panel of experts on Prostate and Bladder cancer of WHO, International committees of Cancer control (UICC, IUCD), and National Cancer Control Network (NCCN, USA). He is a founding member of

Pakistan Association of Urological Surgeons and served as General Secretary for 2 years, served on several regional committees and is a member of a number of national and international scientific associations.

He has contributions to the development of AKU's Medical College, as a faculty member, Associate Dean, Postgraduate Medical Education and twice as Interim Dean, Medical College. He has served as the University's Medical Director and Associate Dean, Clinical Affairs and as the Chief Operating Officer of AKU University Hospital. Dr Abbas has been an examiner in Urology for the CPSP and member of the International Executive Committee of Asian School of Urology and Asian Society of Uro-Oncology. He supervises PhD and postgraduate students.

He has provided support and guidance to AKU during its rescue/relief efforts for the earthquake victims of 2006, as well as to current relief efforts for internally displaced persons in Pakistan.

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Dr. Yasmeen Sabeeh Qazi, *(Prime Minister Performance Award)*

Senior Country Advisor, Population Program,
The David and Lucile Packard Foundation - Pakistan

Dr. Yasmeen Sabeeh Qazi is a Medical Doctor with a vast experience in public health field. She has also received management trainings from New York, Australia and Germany. She is a well known Reproductive Health expert in the country and has remained an active advocate for women's health issues through her association with civil societies for more than 18 years. She has served as an Expert on Task Force of various policies and programs and work closely with Donors and International Agencies on Reproductive Health matters, both in country and regional/international. She has been associated with the Packard Foundation since October 2003 as their Senior Country Advisor. In her last affiliation, under her leadership, as Executive Director of PAVHNA (leading RH NGO in country), it received the Prime Ministerial Performance Award. Dr. Yasmeen received "Maymar-e-Watan" (Nation Builder) Award from Sindh Government on account of "extraordinary work for social development" in July 2004 and was invited to deliver a speech in British Parliament on "Status of Maternal Health in Pakistan" in Parliament House, October 2004 as Packard Foundation Representative. She has also received an Excellence award from PAVHNA on her extraordinary leadership and vision, besides several other awards, such as from Lion's Club and DFID, British government etc. Her latest achievement is Prime Minister Performance Award that was given to Packard Foundation under her leadership on 11th July, 2009 by Prime Minister Gillani in his Secretariat.

Jab We Met

Yasmin Imdad and Imdad Yousufali

Our daughter often asks us how you met each other. This is how we respond to Sara:

Yasmin: March 12, 1984: It was a muggy morning in Surgical 4, when your father walked into the doctor's lounge. I had been on call the night before and had just experienced the death of a patient (my first as a house-officer). I had ordered the famous "chai" from student's cafeteria, and offered him a cup of tea, which he rudely rejected with a firm "NO" (not "no thank you" or "I am fine, thank you", just "NO"); so I thought "patta nahin kiya samajhtaa hai apnay aap ko, amrikaa se ho kar aayaa hai".

Imdad: Suffering from jet lag, I hurriedly got into Surgical 4, only to realize that things moved slowly at Civil. Eager to meet Arif Akhai, I ran into your mother who offered me tea; all I could think of was where were my friends, and being a man of few words responded with what I thought was a courteous "NO".

Yasmin: Your dad thought he was a crossword wiz. Every morning he would complete the DAWN crossword (which by my standard was a really easy, beginner's crossword) and all his friends would say "boss ki kya baat hai". One morning, I had some free time and before the guys came in, I solved the crossword puzzle and left it on the conference table. Your dad could not believe that a mere female (and one that looked like me with "no angrayzi tashan") could have prowess over the language. He kept asking me "aap nay solve kiya hai"?

Imdad: Can you give me a nine-letter word for Surgical 4 patients of Yasmin & Imdad?: NEGLECTED. The fact is I really got to know your mother over DAWN's crosswords. As a daily ritual, we gathered in the conference room where over tea we matched wits. I was amazed that a female could solve crossword puzzles faster than me. Somewhere along the line, while solving crosswords line by line, we gave each other lines and the rest is all magic. Pretty soon, instead of competing against each other, we started working with each other and continue to do so.

Sara: Do you believe in magic, Mom?

Yasmin: Of course I believe in magic. Magic walked into my life 25 years ago!

Made for Each Other

Arif and Tanveer
Mamloo and Roohi
Imdad and Yasmin
Aslam and Anisa
Humayun and Fauzia
Humera and Rohinton
Hussain and Rana
Khalid Khokar and Misbah
Iftikhar and Raffat
Mussarrat and Nusrat
Shaheen Ala and Nadeem Qureshy
Sofia and Tariq Bhatti
Asif and Arjumand
Anwer and Samina
Nadia and Akhter
Sajid and Seema

NON-ACADEMIC QUALIFICATIONS AT DOW

Asif Aslam

I want to talk about the Dow Medical College with reference to Non-Academic qualification and let me begin by explaining what those qualifications are and why are they so important. Each year a large number of students enter educational institutions such as the Dow Medical College. They enter to learn and some of them have the idea of learning for the purpose of serving later on. During this process of learning, the institution exerts an enormous and profound influence on their minds, often leaving behind memories which last a life-time. What the students learn from these institutions is not limited to the formal curriculum. They learn a whole variety of attitudes, concepts and skills which are no less important. Medicine is a science as well as an art, the art of healing, and its practice involves the study of mankind. When one graduates from Dow, one is also a graduate of life itself.

I can now look back on the days I spent memorizing the intricacies of the human anatomy or the dizzying details of the pharmacological substances. Now that the sheer drudgery is past, I can think of those days with humour and perhaps even with affection. Arteries and their supply, muscles and their attachment, bones and their movements, foramen and their contents – like my other colleagues I spent innumerable weary hours learning by heart these insufferable details, and then since they would evaporate, learn them all over once again. This was some thing one had to go through. Perhaps this was the price you paid for the privilege of studying in an institution like the Dow. However this was not my real lesson, my education at the Dow. As my professional interests developed they look me away from much of the endless detail I had learnt by rote, the piling up of facts upon facts. And my cravings for those interests look me to institutions other than Dow. My education at Dow began with the probing into the mysteries of life, and for that initiation I will always be grateful to Dow.

I am not trying to diminish the formal curriculum. I am simply saying that parallel to the organized and regular educational activities, such as the tutorials, dissection, lab work, the Civil Hospital wards etc, there was another set of activities which were no less educational – Inter – action with fellow students and patients, watching the drama of student politics with the larger shadows of national politics looming overhead, the endless discussions in the student canteen, listening to music and poetry in the company of friends and undergoing personal development on more fronts than one. Under the famous yum – yum tree which is a landmark in the college, we did lab work in the biochemistry of human relationships, in the canteen we saw and heard about politics turning into pathology, and we saw the first signs for the groundwork which ultimately

turned our city into a case for forensic medicine. A complete education in itself.

In these days of turmoil and senseless destruction, it seems hard to recall the vibrant and lively atmosphere of Dow Medical College. It was, as I said, an educational institution of life. It was politically charged and volatile. Journalism and poetry were at close quarters. Arts and crafts were at hands. Dow's politics were not limited or narrow. It was said that what Dow is thinking and doing today, the city of Karachi will think and do the next day and all of Pakistan the day after. Dow was a nerve centre of student politics, especially of left wing politics. Much of this had died down with the Zia-ul-Haq era and as students we heard fascinating accounts of "the golden days" while students such as myself did not get immersed in active national politics, we were given a lively and issue conceited political awareness. I recall the student body elections and I am struck by the fact that they were fought, won or lost on the basis of ideology. Ethnicity did not figure at all.

Debates and discussions, study circles, poetry reading sessions and "mushairas" were an integral part of the Dow Medical College "atmosphere". We heard Ahmed Faraz recite "Muhasira" at a college function and knew that darker days were ahead. Opportunities to see well – known poets notwithstanding, there were budding and fledgling writers aplenty. Many of them did not go beyond the immediate occasion provided by college publications, but there is a remarkable number of those who did. My class-fellow Dr. Khalilullah Shibli published a collection of short stories a few years back. Even when I was making eely attempts at uniting, I was conscious of Dr. Qamar Abbas Nadeem who had graduated some years earlier and was already an established name in the short story. He met with a tragic fate later and it is a pity that nowadays critics tend to ignore his work. Many of the experiences which were crucial to my work as a writer were given shape and direction by my days at Dow. I sometimes think that no course in creative writing would have given me more. Creativity was something you could learn from Dow as a part of its informal curriculum. Just as one required the most important non-academic qualification form Dow – that of humanity.

SERENDIPITY

Sarosh Salman Siddiqui

We came from different backgrounds and spent the best years of our lives at Dow, which as a mother nurtured us in to what we are today. The list serve Dowite' 84 is an arena where we the subscribers perform each having our own style and personality; we interact, agree, debate, disagree and agree to disagree. We share our moments of joy, information, concerns and in moments of sorrow we try to be there for each other. Above all it is the platform for us to converge and make the best for the upcoming Silver Jubilee event. The list serve keeps us all connected and in this context we dare be ourselves uninhibited, and in doing so very interesting spontaneous comic situations like the following are born "THE DIALOGUE" which took place between our meticulous Dr Rukhshanda Khan and colorful Dr Shahid Rashid is as follows, resulting in a cascade of verses...

On Oct 5, 2009, at 3:38 PM, RUKHSHANDA KHAN
> <rkhan3415@...> wrote:
> hello, this is your class mate Rukhshanda Khan. I just wanted to
> request that if you can limit your emails to your personal
> friends. We are getting an email from you at least 4 times a
> day. That is too much. Thanks anyways.

Date: Monday, October 5, 2009 8:39 pm
Subject: [dowite1984] Re: your frequent emails
To: RUKHSHANDA KHAN <rkhan3415@...>
> Dear Dr. Khan I had a lot of difficulty in placing you but glad
> to know that you are one of my class fellows.
> Since I checked your email on my cell phone I did not get a
> chance to see to which emails you were referring to. I thought
> by accident I was sending emails to your personal address but
> all of my emails were sent to dow84 list serve.
> Are you asking me not to send emails to the list serve?
> If that is the case, then what is the use of being subscribed to
> this list!
> Though you have sent this email to my personal address but I
> would send a copy of this response to the list serve.
> Once again I appreciate your advice.
> Shahid Rashid MD

Re: [dowite1984] Re: your frequent emails

On October 6 2009, at 1.49 pm RUKHSHANDA KHAN wrote
Dear Dr Shahid.I received your second email. This is a group email address and I do not think
That personal jokes and pictures of your secretary should be a part of it.I can still not place you in my mind, but seems like you were my classmate.I can only advise you rest is up to you.
Sincerely,

RUKHSHANDA Khan

Shahid responded to Dr Khan advice in the following contextual verses as she misconstrued his better half as his secretary which was a stimulus enough for him to respond in verse. The most talked about issue; on the list serve at that point, was of screening for thalasemia prior to tying the knot, was used as a garnish for this comic situation.

Dedicated to Dr. Rakhshanda Khan

Let's commit one more crime

Me and the secretary of mine
I stole her heart and she stole mine

Thalassemia tested before we signed
She gave birth to children of meine

We entered relationship sacred and divine
now I am secretary, she the boss of mine

When you go out with your husband to dine
tell him sShahid is a naughty classmate of mine

I know you hate, jokes of mine
this adds up, one more to the crimes

here is burgeoning family of mine
please pray they always shine

This indeed was thoroughly amusing and won the applause of the audience, expressed in text and in verse:

BIRTH OF A POET

Shahid your poetry is more than fine
Rukhshanda to you the credit we assign

What a beautiful result of whine
Stimulus and response combine

A controversy indeed benign
The muse and poet both shine

SADA E SAROSH

Shahid was still in his creative mode, his impromptu response:

To you Sarosh

You have earned cordon bleu
all your writtings always new
I am sure and this is true
recent verse with Lahoree hue
Lots of surgeries in the que
Sometime later I'll see you

Chow !

This epic continued on the list serve for sometime, adding more color and dimension to its versatility. Then the grand finale was on the following note:

Response Ability

Rhymes come in handy for you
Refreshing soft like morning dew

Words indeed I have few
To match UR talent "WHEW"!!

Your verses colour our view
Your aesthetics we never knew

Intellect & emotions all accrue
To unravel your verse debut

This you must pursue
Miscommunication it subdues

Ali, Kauser, Imtiaz come to rescue
To respond to the poet's cue

Minhaj, Anwar, Gulzar & Qadir too
Enrich list serve by this game new

My eloquence is a skew
For now its ADIEU

NAWA E SAROSH

"Gender Mainstreaming in Sexual and Reproductive Health Programs"

Yasmeen Sabeeh Qazi

The distinct roles and behaviors of men and women in a given culture, dictated by that culture's gender norms and values, give rise to gender differences that empower one group to the detriment of the other. The fact that, throughout the world, women on average have lower cash incomes than men is such an example.

Bothe gender differences and gender inequalities can give rise to inequities between men and women in health status and access to health care. For example; a woman cannot receive needed health services because norms in her community prevent her from traveling alone to a clinic or a married woman contracts HIV because societal standards encourage her husband's promiscuity while simultaneously preventing her from insisting on condom use. In each of these cases, gender norms and values, and resulting behaviors, are negatively affecting health. In fact, the gender picture in a given time and place can be one of the major obstacles - sometime the single most important obstacle - standing between men and women and the achievement of well being.

Women in Pakistan have fewer choices and opportunities and live very different lives from men. Gender inequities affect many areas of their lives and they are forced to live under different circumstances from men from the beginning of their lives. They bear multiple responsibilities, have few choices and opportunities and little personal liberty and autonomy to make decisions. The consequences of this are reflected in the indicators of poor health status, very low literacy rates, exclusion from ranks of economically productive population, increasing incidence of physical and sexual abuse and declining legal and social status.

These poor indicators are most tallying in maternal and neonatal health scenario where Pakistan has one of the worst maternal mortality ratios in the region. Nearly 30,000 women die each year in Pakistan due to pregnancy related causes; in most of these cases the deaths are preventable. It is estimated that nearly 50 mothers die each day from pregnancy and child birth in Pakistan according to a death at every minute. This is a "silent emergency" - silent because it is happening outside the public eye and outside the policy maker's field of vision.

Maternal mortality is often considered responsible for the "missing women" in Pakistan's population statistics. Adolescents' females, aged 15 to 19 are twice as likely to die as women in their 20s. Out of total number, 78,000 women die due to the result of unsafe or self induced abortion. Abortion is illegal in Pakistan except to save the life of mother yet so many mothers die as a result of unsafe abortion. A recent study on abortion by Population Council has revealed that nearly 900,000 abortions take place annually in Pakistan. This is a wake up call for everyone, for both Ministries and private health sector.

The nutritional status of the population, especially of pregnant women, is highly

unsatisfactory. The National Nutritional Survey 2001 - 2002 shows that 12.5% mothers and 16.1% of lactating mothers are malnourished. Iron deficiency was found in 45% mothers. Clinically, anemia was present in 29.4% mothers, 22.5% being moderate to severly anemic. It is believed that poor nutritional status of women is due to the discriminatory attitude that infant girls receive in a household of less resources. Anemia is the leading cause of post partum hemorrhage, which is the number one reason of maternal deaths.

The other reasons are the denial of gril's right to education by an early marriage. Though the mean age of marriage has increased in Pakistan to 22 years but it is still low in rural areas. The low practice of contraceptives is another reason for "too many pregnancies, too frequently". The percentage of "unmet need" in family planning programs remain high.

Low utilization of health services by the women is another important factor: According to PDHS 1990-1 only 26.7% of pregnant women availed of antenatal care services; this figure increased slightly to 27.6% in 1998 - 99 (PDHS); the majority of deliveries continues comprising of dais and family birth attendants. The tradition of home deliveries continues due to limited mobility of women, lack of health care facilities and skilled service providers (birth attendants) in the rural areas. Only 54% of rural population lives less than 6km from the BHU - Basic Health Unit.

In the past, several health policies have been outlined, and strategies prepared to address the needs of women in the maternity cycle. They have not been comprehensive or focused on Safe Motherhood. Maternal and neonatal mortality and morbidity continue to remain high, and need to be addressed as a priority. It is recommended in this situation that the reasons for "three delays" in Emergency Obstetrical Care needs to be comprehensively addressed through advocacy, educating the couples & families, availability of transportation and fully equipped health facilities.

The dilemma continues in many forms and poses several challenges for Reproductive Health activists and supporters.. Tradition and culture seems more restrictive for women as they are expected to suffer in silence. The cultural factors such as low status and lack of deceision making power, poor nutritional status, limited husband's involvement in parenthood, keeping pregnancies within four walls of the household and home deliveries by unskilled service providers are major determinants of women's vulnerability for falling prey to maternal mortality.

Women dying needlessly during child birth want our attention and together we can save them. Programs focusing on women's health issues needs to be formulated along with gender sensitive policies to bridge the gap of gender inequities.

SOPs of my new Firm. "Khan Thupppp Consultancy"

Anwer Ali Khan

Before joining/applying, you should be cognizant of these.

SICKDAYS
We will no longer accept a doctor's certificate as proof of sickness. If you are able to get to the doctor, you are able to come into work.

SURGERY
Operations are now banned. As long as you are an employee here, you need all your organs. You should not consider having anything removed. We hired you intact. To have something removed constitutes a breach of employment.

HOLIDAYS
Each employee will receive 104 holidays per year. They are called Saturday and Sunday.

BEREAVEMENT LEAVE
This is no excuse for missing work. There is nothing you can do for dead friends or relatives. Every effort should be made to have non-employees to attend to the arrangements. In rare cases where employee involvement is necessary, the funeral should be scheduled for the late afternoon. We will be glad to allow you to work through your lunc-hour and subsequently leave one hour early, provided your share of the work is done.

ABSENT FOR YOUR OWN DEATH
This will be accepted as an excuse. However, we require at least two weeks' notice to allow time for you to train your own replacement.

TOILET USE
Entirely too much time is being spent in the toilets. In the future, we will follow the practice of going in alphabetical order. For instance: All employees whose names begin with 'A' will go from 8:00 to 8:20, employees whose names begin with 'B' will go from 8:20 to 8:40 and so on. If you are unable to go at your allotted time, it will be necessary to wait untill the next day when your turn comes again. In extreme emergencies employees may swap their time with a co-worker. Both workers' supervisors must approve this exchange in writing.

In addition, there is now a strict 3-minute time limit in the toilets. At the end of 3 minutes, an alarm will sound, the toilet paper will retract, and the door will open.

LUNCH BREAK
Skinny people get an hour for lunch as they need to eat more so they can look healthy, normal size people get 30 minutes for lunch to maintain their average figure. Fat people get 5 minutes for lunch because that's all the time needed to drink a Slimfast and take a diet pill.

DRESS CODE

It is advised that you must come to work dressed according to your salary. If we see you wearing designer clothing we will assume that you are doing well financially and therefore do not need a pay rise.

Thank you for your loyalty to our company. We are here to provide a positive employment experience. Therefore, all questions, comments, concerns, complaints, frustrations, irritations, aggravations, insinuations, allegations, accusations, contemplations, consternations or input should be directed elsewhere.

Law of the Telephone:
If you dial a wrong number, you never get a busy signal.

Variation Law:
If you change lines (or traffic lanes), the one you were in will start to move faster than the one you are in nor (works every time).

Law of Close Encounters:
The probability of meeting someone you know increases when you are with someone you don't want to be seen with.

Law of the Result:
When you try to prove to someone that a machine will won't work, it will.

Law of Bio-mechanics:
The severity of the itch is inversely proportional to the reach.

Early Resuscitation of Trauma Patients

Syed Nurul Haque

Trauma is defined as anybody wound or shock produced by sudden physical injury, as from accident, injury or impact and so patients suffering from multiple injuries are commonly known as major trauma victims.

These patients suffer serious and life threatening physical injury and require specialized care within the so called "Golden hour" (first sixty minutes after trauma occurs). In a pre hospital setting, trained staff known as "first responder" use stabilization techniques to improve the chances of trauma patients and then they are transported to the nearest hospital or trauma center. A multidisciplinary approach is required in the management of major trauma.

The patient suffering multiple trauma must be thoroughly assessed on admission so that life threatening injuries can be corrected. The team leader is responsible for assessing the patient and coordinating the work of other members of the team, whose role is to treat the injuries as directed by the leader.

All trauma cases should receive:
- Primary survey (assessment) and resuscitation
- Secondary survey
- Definitive treatment

Primary survey and resuscitation. The survey is planned as follows:
- Airway control with cervical spine protection
- Breathing
- Circulation and control of hemorrhage
- Disorders of the central nervous system
- Exposure of the whole body

Air way control with cervical spine protection: ensure clear and unobstructed airway. If patient can answer questions appropriately then it is unlikely that there is any immediate threat to the airway: Noisy or laboured respiration or paradoxical respiratory movements are evidence of airway obstruction. Vomitus, blood or foreign material in mouth should be removed manually or with a rigid sucker. Simple chin lift or jaw thrust will often open the airway but taking care not to disrupt the cervical spine. Oropharyngeal airway in unconscious patient is inserted with care. Naspharyngeal airway can be inserted provided there is no suspicion of base of skull fracture. Any patient with possible cervical spine injury should have their neck immobilized in a neutral position to prevent further damage. Endotracheal intubation is indicated if airway patency is inadequate or the patient is in apnea or there is loss of protective upper airway reflexes. Orotracheal intubation with in line immobilization (not traction) of cervical spine and use of gum elastic bougie is unlikely to cause cervical spine movement.

Breathing: Respiratory rate and any obvious injuries must be noted. Routine

inspection, palpation, precussion and auscullation are essential. Tension Preumotherax, massive haemothorax, flat chest, open chest wound and disruption of tracheobronchial tree should be treated quickly.

Circulation: Any major haemorrhage that is visible should be controlled by direct pressure. Tourniquet should not be applied as it occludes collateral circulation causing tissue destruction. A rapid assessment of cardiovascular system should be made including pulse rate, skin colors, capillary refill, level of consciousness and blood pressure and immediately two large cannulae (16 G) should be inserted.

Blood should be taken at the time of cannulation for crossmatch and in major trauma with shock eight units should be ordered as a priority. In Class III hypovolaemia (30-40%blood loss) blood is often needed before a full cross match is possible and those with Class IV hypovolaemia (>40%blood loss) un crossmatched O Rhesus negative blood must be used and it is recommended that all accident and emergency departments should have at least 2 units available at all times for immediate use. Commence rapid intravenous infusion immediately. Warm crystalloid or colloid whichever is available should be used. Give warmed blood early in severe shock.

Disorders of the central nervous system: The CNS should be assessed by ascertaning the level of consciousness, spinal cord function and pupillary response to light.

Exposure: All multiple injured patients should be completely undressed for thorough survey of injuries. Avoid hypothermia.

Secondary Survey: The patient is best examined from head to toe by the team leader. Once the secondary survey has been completed, the primary survey should be repeated to prevent any new complications from occurring during the course of the definitive treatment.

Love someone whom you don't have to be fancy or talk in a special way, you don't have to mind your manners or wear your best clothes and shoes, you don't have to pretend you're happy when you're feeling sad. Love someone you can cry on, you can laugh out loud with, you can speak your mind or say nothing at all, you don't have to try hard to impress him/her. Go with someone whom you can just be you, and appreciates you for that.

The Plight of International Medical Graduates in Canada

Minhaj A. Qidwai

Abstract

Canada is attracting a number of International Medical Graduates (IMGs') from different parts of the world. They are looking for better opportunities for themselves and their families. However, when they arrive here, they realize the realities on ground. They have to balance between their survival and education. Most of them survive, but little make advances in their career and education. This pool of human resources in the healthcare industry is at the disposal of a country, which is short of doctors and still committed for free healthcare for all. The Federal and provincial governments and the regulating authorities, need to take a closer look to capitalize on the underutilized human capital available in Canada.

Based on its immigration policy, Canada is attracting a number of IMGs' from different parts of the world. They are looking for better opportunities for themselves and their families. They may come as:

- An individual or with their family, to gain citizenship of the country;
- A sponsored member of an immigrant family: and
- A bride or groom to the Canadian Citizen;

Majority of the IMGs' are arriving to gain citizenship of Canada, stay back and serve their new homeland. They bring some money for their survival for an initial period of six months to a year. During this time period, as per Maslow's theory of hierarchy, their initial quest is for survival looking for a job to start their earnings. Most of them have never experienced the working conditions in North America. They are ill prepared to cope with the situation, and realize the reality on ground, after they have landed as an immigrant into Canada. The variables that determine their survival include:

- Age;
- Family structure;
- Wealth they bring in Canada; and
- Networking (usually negligible in the beginning)

Individual doctors, and those who bring a family into Canada, have usually crossed the age of 30. In most of the cases, they are single bread earner for their families; and they have one or two children of school going age. The wealth they are asked to bring is for an initial survival of six months. Therefore, their initial focus is on survival, and settlement; and not on passing the Canadian exams. This category of IMGs' is in a poor economic state. They are either working in factories, or driving Taxis, or doing other odd jobs, which are wastage of their talent, especially in a country which need trained medical professionals to work as doctors in the system. The other categories of IMGs' that are arriving in Canada, are usually young, and come to join their families or are married to a Canadian Citizen. These people have energy to work for the goal of becoming doctors in Canada by passing the exams. Survival is a relative issue for them.

Therefore, we have two sets of IMGs' coming to Canada. Those, who will pursue their medical career, and others, who will end up either in an allied field, or will change their course of direction. If the system is destined for reforms, efforts should be made to amalgamate both types of IMGs' in the healthcare system. The decision makers in healthcare (both Federal and Provincial government), Regulating bodies, Human Resource Development Centres and other educational institutions, can work towards development of an educational curriculum. This should initially be one, but branched at a later stage to breed supportive healthcare professionals, and mainstream doctors. Curriculum should include:

- General Orientation about Canada;
- Program for English as a Second Language (If the scores are not satisfactory for ESL exams);
- How to prepare themselves for Jobs in healthcare: The biggest myth in job search in Canada is "Canadian Experience". These IMGs' who neither have a license to practice even as a nurse, cannot gain access in the Canadian system. So they end up in Security Jobs, Factory jobs, or as laborers (but not in the healthcare system, where they should be eventually placed by the system). Although, some study for their Canadian Exams, and may even pass their exams, but residency and match becomes a nightmare for them. So, majority of this category of doctors will land up in allied health field, but probably better placed than their counterparts, who did not try to enter into the system. The second part of the curriculum can help in preparing them as a nurse or physician assistant. But, they have to compete themselves in the local market with the Canadians, so the curriculum has to focus, what can bring them at par with their Canadian counterparts for a fair success rate.
- Those doctors, who can sustain, and want to pursue their medical career, can be put into a program for "How to prepare for Canadian exams, and settling in Canada as Doctors":

Even after being put in this program, several of the IMGs' may not be able to gain residencies, due to the healthcare system in Canada, and will remain contented with the position they can eventually attain due to several factors like age, physical fitness etc.

The curriculum can focus on two sets of IMGs':

- A. Those who are contended, and want to be in the allied healthcare field, and
- B. Those who want to pursue as doctors. For this set of group of people, there should be another set of curriculum, to include how to gain residencies, prepare themselves to work under restricted license, gain support of a supervisor, and the roles and responsibilities of working under a supervisor etc.

The curriculum can focus on a variety of allied healthcare. Their entrance into the program, and the eventual field of interest, will depend upon their IQ, background, and the set of training they received in the past. The IMGs' can be trained for working in different levels ranging from entry to senior management, in following areas, like:

Nursing
Sub-Specialties in Healthcare
Management Positions

The above broad areas, and one can go find tons of positions available in healthcare. This shows the wealth of options available with the IMGs'. There are three Critical Success Factors:
- Awareness,
- Training; and
- Placement for work

The awareness and training can be a part of the curriculum and the ultimate project outcome, but for placement there need to be establishment of new partnership, collaborations, and joint ventures. These partnerships are vital for the success of the project. The partnerships cannot only be between the Non-Governmental Organizations, but also at the government level. If these programs are initiated at the countries of origin of these doctors, before they migrate to Canada, initial frustration and helplessness among our professional colleagues can be averted. The key outputs of the program would be a two-tier module based curriculum for the healthcare professional. One focusing on those aspiring for an allied field and other on becoming a doctor of medicine. While curriculum is developed, it will also be kept in consideration, that there will be an entrance test, which will determine the level of knowledge and aptitude of the professional.

This educational enhancement will bring upfront, the options available for IMGs' to gain access in the healthcare industry, with the information and training on the diversified fields available, even if they cannot become doctors in Canada.

The IMGs' who are in Canada, or are planning to come to Canada, can play a vital role in reshaping the health care system of Canada. They can replace the baby boomers, reduce the existing load on the Canadian doctors, and bring effectiveness and efficiency in the Canadian Healthcare System. It is imperative that the Canadian hidden wealth of IMG's should be brought forward in the main stream of the healthcare system. Unfortunately, the Feds bring them in, but leave them at the mercy of the provinces to absorb. Provinces, have their own system of hiring and their preference is the Canadian graduates, and other factors also play in keeping the IMGs' at the bay from playing their vital role in the system.

It is time that Feds, Provinces and the governing bodies of doctors recognize this missing feather in the cap, to increase the access of healthcare to Canadians and bring it to the door step of Community.

> Relationships, of all kinds, are like sand held in your hand. Held loosely, with an open hand, the sand remains where it is. The minute you close your hand and squeeze tightly to hold on, the sand trickles through your fingers. You may hold on to some of it, but most will be spilled. A relationship is like that. Held loosely with respect and freedom for the other person, it is likely to remain intact, but held too positively, and the relationship slips away and is lost.

UNDERSTANDING CARDIAC EMERGENCY

Roohi Ilyas

The management of myocardial infarction has been transformed in the past two decades. Whereas in the past, management was symptomatic, recent advances have led to the proactive approach addressing the underlying pathological process.

RECOGNITION

The common presenting symptomatic of myocardial infarction is severe chest pain. This is usually central chest pain radiating to neck, jaws, back, shoulders, or arm. Sometimes it is not recognizable, when symptoms occur as acidity or cough or shortness of breath. When pain in typical it is described as tight, pressing, heavy or constricting, sometimes patient may deny pain and describe a discomfort not amounting to pain in the center of the chest.

Although it can be brief, the pain usually lasts for more than half an hour and may continue for several hours. This pain is not relieved with rest or sublingual glyceryl trinitrate.

The patient may present with one of the complication of myocardial infarction which may be:

- Arrhythmias
- Cardiogenic shock
- Left ventricular failure

IMMEDIATE TREATMENT

"THIS IS IMPORTANT" Intervention to limit infarct size should be administered as soon as possible.

Resuscitation from cardiac arrest is most after required at this time. It is, therefore, of great importance that resuscitation and other relevant facilities should be available outside hospital. This can be achieved by medical or paramedical staff, but where and when a person will develop a need and require support one can not predict.

INVOLVING GENERAL PUBLIC

As the basic life support (BLS) is taken as the required step for resuscitation from cardiac arrest this should be advocated on the larger scale, motivating the younger healthier generation, to learn the skill.

Projection of the heart attack scenes along with resuscitation efforts again and again on TV screens, will motivate the younger population to go to centres for learning the BLS skill.

COMMUNITY SUPPORT

If we are successful in convincing the people for acute nature of cardiac emergency and resulting high mortality, we would be able to motivate them in establishing the BLS skill centres at every corner of every locality. Young people having skill of BLS will wear some badge/ arm band, so that they can immediately be called to scene of the emergency.

CORONARY CARE

For the first few days after the onset of acute myocardial infarction, the risk of sudden and unexpected death is high. This is largely due to arrhythmia by appropriate therapy. Because of the close observation required at this time and the need to have appropriate equipment and skills immediately available. Patient should be in coronary care unit for first few days.

EARLY MANAGEMENT

All patients with suspected myocardial infarction should be considered for thrombolysis or primary angioplasty whatever suits the patient, considering the possible contraindications.

In general, the larger the infarct the greater is the potential benefit of early intervention /thrombolysis

THE TIME WINDOW

The benefit of thrombolysis diminish rapidly with time and the goal should be to administer therapy as early as possible. If there is substantial delay in reaching the emergency unit then out of hospital thrombolysis should be considered as an alternative.

For the majority of infarcts, thrombolysis should be considered in patients presenting within 6 hours of the onset of symptoms.

Treatment between 6 and 12 hours is still likely to benefit high risk group, such as patients with large anterior infarcts. Treatment beyond 12 hours is unlikely to be beneficial.

OUTCOME

In about one quarter of all episodes of acute myocardial infarction death occurs suddenly within minutes of the onset. Such cases are seldom seen by the physician.

The overall natural mortality rate, excluding the very early deaths is approximately 15-30%, but this has been greatly reduced by treatment so that the in-hospital mortality rate no average 10%.

The risk of death depends upon many factors including:

- The age of the patient
- Previous myocardial infarction
- Presence of other decease
- Extent of infarction.

FACTS

- Mortality rate of acute attack rises sharply with age.
- Mortality is higher in women than men.
- Mortality rate is greater in recurrent.
- Compared with first infarction
- Risk of dying is highest in first few hours and decreases rapidly thereafter.

Woman has Man in it;

Mrs. has Mr. in it;

Female has Male in it;

She has He in it;

Madam has Adam in it;

Ever notice how all of women's problems start with MEN?

MENtal illness

MENstrual cramps

MENtal breakdown

MENopause

GUYnecologist

AND

When we have REAL trouble, it's a.. HISterectomy.

Remember You Don't Stop Laughing Because You Grow Old, You Grow Old Because You Stop Laughing

THE WORTHY SOULS

Musarrat Sohail

Out of sight but definitely not out of mind.
Who can forget our worthy teachers who contributed a lot in the grooming of our professional as well as personal lives? Those kind hearted personalities will remain in our hearts as a symbol of respect and dignity, as long as we live.

We pray THE ALMIGHTY to keep their souls in rest and peace, forever.

It is very difficult to pay them a tribute after they departed us as I still feel that they are with us and I find no words which can describe their qualities appropriately. We remember and respect all of them but here I like to offer gratitude to few of those commendable personalities who dominate our nostalgic feelings related to our old golden days.

Madam Razia Latif Ansari, Professor of Gynacology and Obstetrics was a very great & powerful person. Her awesome personality & professional approach distinguished her from others as she was very strict to her rules. She was a much disciplined person and used to expect same commitment from others too. She will be ever remembered by all of us for her dedication and positive approach towards life.

Dr Shakir Ali Jafferi , Professor of Biochemistry was a very vocal & dynamic person. He was popular amongst students due to his unique teaching style and good communication skills. He knew how to control a noisy class during his lectures .He will be always admired by student community for his impressive personality.

Dr Fazal Elahi, Professor of Surgery was a soft spoken and polite gentleman. He was a very competent surgeon and an equally good teacher. He also had good administrative skills and was popular among his staff due to his gentle attitude .Students were very keen to attend his teaching sessions during their clinical posting. He will ever be alive in our memories.

Dr Majeed Memon, Professor of Gynaecology and Obstetrics, was a symbol of vocational skills and had an authoritative personality. Though a male gynaecologist, he managed to take the whole departmental issues brilliantly along with him so that none of the patients hesitated to be treated by him. He was a good teacher too and had a vast professional knowledge. He had required skills to survive as a male gynaecologist in a field dominated by the females.

Dr M. M. Hasan, Professor of Opthalmology, was a broad minded and humane person who always tried to be compassionate with the patients. During his tenure the

department was very much organized and the students used to take keen interest while they were posted there. We still remember him for his qualities.

Dr. Malik Ali Sheikh, Professor of Medicine, was a distinguished clinician. He had full control over the subject and his clinical skills were commendable. The students were quite impressed by his depth of knowledge and he had a thorough professional approach towards the management of his patient's miseries. We all remember that we were benefited a lot by his excellent teaching skills.

LIST SERVE

Minhaj A. Qidwai

One who created the global bonds
Among the friends and foes Thanks to those who created the list serve

Poets, photographers, writers and others
Professionals under the veil of rookies
Were unearthed through our list serve

Common emails shared among all,
Pics, wisdom offense, counter offense
Eventual calm prevailing at the list serve

People complaining of cluttering of email box
Best advise is Tolerance and use of "Delete"
After all, we are a family at the list serve

Family is getting together for Silver Jubilee
Some attending and others unable to do so
Still, all will be connected through the list serve

Today is not yesterday and tomorrow will not be today
Some have passed, and some may leave amongst us
But, the list serve will continue its journey

Tomorrow will be of our children and their off springs
Connect them together today for tomorrow
For this should be the message for list serve

Stars in the skies

You are the tears in our eyes
You are the stars in the skies

O beloved ones so dear
Gone far, yet so near

Our prayers fill the air
And we know you're there

Sharing all our dreams
Through the timeless seams

As the precious pearls of sorrow
Light the way for tomorrow

Sofia Rokerya

Frequently as I wait for sleep to envelop me
My mind wanders back to a bygone time
Of friends and colleagues who were with me
And who left me in their prime
Who does not remember **Asim**
Tall, strong and good looking
Tariq Rasheed, such a jewel,
Dependable, hardworking, nonpareil
Qazi, who was a dear friend
Charming, witty, eloquent and oh! so grand
Bakhtiar quiet and gentle
Smart, smiling and always agreeable
Junaid, ready with a quip, always pleasant
Ready to help, never hesitant
Was it not a privilege to have known them
May the Almighty be merciful and bless them
May they forever rest in peace and serenity
May heaven be their abode eternally

Asim Farid

I clearly remember **Riffat Mazhar Memon**, who emerged on the canvas of third year 84ian, confident and groomed. Her vibrant personality created ripples in all circles of Dow 84. She was congenial, helpful, adventurous and kind-hearted.

She had leadership qualities and mesmerized all of us with her charming persona. She was a great company, her sense of humor was extraordinary and had child-like mischief in those sparkling eyes.

She was a restless soul, always had an agenda, a project to start with aplomb and then conveniently leaving it to others while she would be busy executing her new found passion.

Riffat, we all miss you and have yet to find an individual who has concoction of such diversified qualities in harmony called **RIFFAT**.

Sarosh Salman Siddiqui

Early summer May 2003, Orlando, Florida at a Neurology meeting, I checked in at the convention center. After I was done at the counter, I turned and saw very familiar face with the well remembered gentle smile. He approached me and we embraced each other. It was our dear **Bakhtiar Bazmi**. We met after almost 15 years. It seemed a life time, but he expressed the same warmth and feelings, that I remembered of him, from the days at Dow! Then he turned and introduced me to his wife and 4 children.

The next 3 days he made every effort to spend time with us despite his family being there. We caught up on all the news. He had not changed at all... still had the same very understanding, gentle and caring attitude. He told me that he got his immigration in Wisconsin and he now lived there in partnership with another neurologist from Pakistan. His wife was from Pakistan, but was a Canadian Citizen, as he also had lived in Canada for some time. He was doing well in his practice. He showed a keen interest in my well being and also of other friends that I was in touch with. I updated him on a few things and he did the same. At the end of the meeting we exchanged contact numbers with an understanding to keep in touch.

October 2003,.... 5 months after our meeting, to my shock and disbelief one day I learnt that **Bakhtiar** was no longer with us. All I knew at that time was that he had collapsed at home. The next day I called his office in Wisconsin and talked to his partner. I was told that he got up one morning getting ready to take his children to school, when his wife heard a loud noise from the other room. She found him on the floor unconscious. He was rushed to the hospital. A CT scan of head revealed a massive sub-arachnoid hemorrhage and he passed away shortly thereafter..... This is life....!

Bakhtiar, KT Uzair, Asim Khan, Tariq Rasheed and **Junaid Dinarwala** have all left a void that cannot be filled. They were kind, gentle, caring and dynamic personalities. They will be missed now and forever!

Faiz E. Niaz

I first met **Junaid** in 1977 (or was it 1976?) on a hot sweltering morning when I was standing in a long queue with my late National College buddy Kazi Uzair, desperately waiting to submit my application to DMC. My admission depended on 10% NCC marks, but not Junaid's; he was way up on the merit list but had decided not to mention it and instead pretended to be as nervous as I was.

We were never in the same clinical group, yet somehow he was always hanging around with our dreaded soldier group, led of course by the famous Nadeem Shakir! I remember our joint study sessions leading up to our 1st professional exam. Our headquarters was Kabir Qadri's house and we thought we were genuinely working very hard and were really stressed out, except for Junaid. Although it always seemed as if he never studied as much as the rest of us. Majority of our group including myself landed heavily on our backside but this was not the case with Junaid. He continued to progress effortlessly; I wish I could say the same for myself (4 out of 5 exams flunked).

I never imagined Junaid as a surgeon; to me he always looked more like a medic, but he chose surgery and excelled in it. He very quickly got all his exams under his belt and completed his surgical training in the UK. I remember visiting his house in South Shield (UK) in 1994. He was desperate to go back to Pakistan and eventually this is exactly what he did, despite the fact that he could easily have remained in the UK and become a consultant.

Junaid on his return joined Baqai Medical College; he started a private practice and never looked back. He was extremely busy with his practice, but always had time to see and treat patients who could not afford treatment, free of charge.

When it seemed nothing could go wrong the unthinkable happened. **Junaid** was diagnosed with Ca Colon. I remember when ever I visited Pakistan he always organised a night out with the 'boys'. I clearly recall one night at dinner when I noticed he was not eating; when I asked him about it he told me he could not hold anything down because he was having chemotherapy. This was the sort of person **Junaid** was, always thinking of others before himself. We will always miss him.

Arif Khan

It is indeed an irony of fate that good people leave so soon, so unceremoniously, so quietly amids a crowd which can only mourn the loss. It is still hard to believe that the wild waves could be so cruel and so hungry that they would swallow Tariq Rasheed. The waves even now keep on jumping and roaring as if nothing had happened.

It was Friday, the 15th last. The weather was very comforting; students were enjoying the cool atmosphere of Swat. Tariq asked his friends not to board a bus but to walk on foot – this will enable them to admire beauty more closely. His friends agreed. There was happiness all over. But nobody knew that the beauty of the Swat Valley had something to do with the mystery of life – and death. Suzuki van passed by and they boarded it. The van suddenly fell into the roaring water, and the Tariq was nowhere to be found. He vanished, never to be seen again. Now the stickers gaze at is blank by – searching for its creator. The architect is no more with us. For us the college looks vacant.

Each car that enters or leaves the college premises has a sticker bearing the name of the college designed by the man whose death we mourn. Each car enlivens the memories which are so fresh, and so truly alive. It seems we will, in a moment, see the smiling face of Tariq adjusting his spectacles. But as the rose fades the fragrance lingers. Similar are the memories of our friend. We will never be able to get back the moments that we have spent together. The distance between Tariq and us is enormous yet he appears to be so close. The distance divides us, the memories unite. I will not talk of the services he rendered. But he inspired hope in the youngsters – his publications will remain a permanent guide. His insight into everything was unique. He possessed exceptional talent, pulsated with vigour, vitality and confidence.

He was also exceptional sports man and possessed leadership qualities. Had he lived longer he would have certainly made his presence felt not only within the country but also across the frontiers.

Arzoo Mehdi

A memorable project: Summary of the responses given to the e-survey circulated on the list serve

Report by *S. Kauser Ali*

It was end June when Ali Imam, Shamvil, Mushatq Arzoo and me were discussing how to get updated information from class mates. We ultimately decided to get help from technology and thus a survey form was created on Survey monkey. This was a learning experience for me too since this was my first attempt at using the survey tool and of course I got my motivation from the mere thought of getting a chance to impress the 'not techno savvy' ones.

So I ventured on this task which was very interesting, thanks to my brief stint at the Community Health Science Department of Aga Khan University, I was aware that all survey instruments must be piloted before launching. So I send it to a few friends prior to launching it on the list serve. Ali, Imdad, Minhaj and MAJ were a great help in refining the survey, thank you Guys!! Some technical glitches remained till the end, one of which was the date of marriage (this goes to show that learning never ends), my extreme apologies to those who could not proceed because of it.

Well the survey was finally launched in July 2009. The initial response was slow and after repeated reminders and coaxing (even to those on the data base committee) I was able to get 106 respondents comprising 34 gals and 72 guys by the last week of September '09.

Since the updated contact information is printed in the yellow pages of the Souvenir, I thought it might be of interest to you to read a summary of responses given to some of the questions enquiring about family and also asking the respondents to take a stroll down the memory lane and identify some fond and funny memories of the by-gone days.

I have edited some of the comments, making them shorter and crisper but taking care not to distort the essence. I have also tried to maintain confidentiality by removing names from the comments, where ever felt desirable (based on my own judgment).

The highest number of respondents were from USA (43.4%) followed by those in Pakistan (41.5%). Rest of the 15% were from UK (8.5%), Canada (2.8%), Ireland (0.9%) and Middle East (2.7%)

Since we were interested in knowing the specialty of our class fellows (especially of those working in cardiology/cardiac surgery, cosmetology, geriatrics since many of us may need to contact them sooner or later) and of course we wanted to know of those in positions of influence. Hence we asked them about their specialty and designations. It was a pleasure to know that many of us are at the top echelon in academia, service and research. Some of our friends are not practicing medicine but are excellent entrepreneurs and home makers and they make us very proud. Three Cheers for Class of Dow '84. Those interested in details are advised to consult 'Table

1' (we may be able to update the list after the reunion).

We were also inquisitive to know of the year of marriage of our friends. Some did not mention any date and if it weren't for the technical glitch I have mentioned earlier, I would have safely presumed that they are still eligible and gotten busy with Sarosh in making matches. Anyways please let us know if you guys (and gals) need any assistance from us. The majority of the respondents got married in 1989 ad 1990 (probably after passing their specialty exams) and three married in '95, '97 and '02 respectively. Well as the adage goes 'better late than never'.

A total of 173 kids were reported by the 106 respondents (the family planning guys should be very happy). The distribution was bimodal with equal numbers (n = 22) reporting 2 and 3 kids (range of 1-7). Surprisingly there was an almost equal representation of both genders with males outnumbering female children by 3 only (88 boys and 85 girls). Many of us have kids above 20 and I could feel the sense of pride which we have in our children merely be the way the parents wrote about them and their achievements. May Allah grant them long life and bless them with a happy, safe and prosperous future and give us time to enjoy their achievements (Amen).

It was a pleasant surprise to note that we have at least three GlamgGrans – thanks to Shibli for introducing me to this term - (two glamorous grannys and one granddad) in our group. If there are any more please inform us.

In hindsight I feel that I should also have asked about the spouse's profession. Going through the responses I noticed that few of the gals mentioned that their husbands were engineers and lwayers but very few guys mentioned the occupation/profession of their wives. Well don't loose heart; I will add it to the Golden Jubilee survey form.

Down the Memory Lane

We had asked people for their favorite teacher. I was a bit sorry to note that many did not fill this section!! Anyways of those who were remembered Dr Shakir Ali Jaffrey (Biochemistry) was listed by most followed by Dr Mushatq Ahmed (Surgeon) and Prof Fazal Elahi (Surgeon). Dr Shakir Jaffrey was remembered for his dedication, use of poetry and his ingenious ways of keeping us attentive during the boring lectures on metabolism and biochemical pathways. Dr Mushtaq Ahmed and Dr Fazal Elahi were remembered for their professional and genteel manners. Dr Jokhio (Orthopedics) and Dr Razia Latif Ansari (ObsGyne) were the next followed by equal number writing about Dr Rahimtola, Dr Ghaffar Billoo, Dr Mohammad Shafi Qureshi, Dr Noorjehan Samad, Dr MU Islam, Dr Mohammad Masroor and Dr Afaq. Many more were identified by atleast one (please refer to the list placed below).

Searching for memories the group came up with a long list while some said that there are so many that they just could not list them. The most commonly cited were the Convocation, Student union elections especially the first and last ones, KT Uzair was remembered by many, tea & samosas at the snack corner, Shahabuddin and Smoke Drum, the cricket matches, musical evenings, concerts & other social events and the hygiene tour amongst the many (see list below). Some of the Class couples happily married mentioned the day they found each other to be their most memorable day.

The funniest moments reported also related to similar events and are listed below. This was a very insightful activity for me and I am grateful to all those who responded to the survey. While going through the answers I often started laughing while at times I had tears in my eyes thinking of those no longer with us and that we may not have appreciated them as much as they deserved. My spouse and kids often wondered if I had lost my head but soon they started appreciating my feelings and my eldest said that she will participate in all the events of her undergraduate years and keep a record of all the happenings so that she can publish it in the silver Jubilee Souvenir of her Class. So much for role modeling!

In the end I would like to thanks you, my friends, for giving me the joy of sharing your feelings with the rest.

Table 1: Specialty

	Frequency	Percent
No area selected	3	2.8
Health Administration	2	1.8
Anesthesia	3	2.8
Biochemistry	1	.9
Cardiology	2	1.9
Community Medicine/public health	5	4.7
Dermatology	2	1.9
Diagnostic radiology/imaging/radiology	4	3.8
Endocrinology	2	1.9
Family Medicine	4	3.8
Forensic Medicine	1	.9
Gastroenterology	1	.9
General Surgery	3	2.8
Health care systems management	2	1.9
Health policy and planning	1	.9
Hematology	3	2.8
Histopathology	2	1.9
Internal Medicine	17	16.0
Medical education	2	1.9
Medical oncology	1	.9
Nephrology	3	2.8
Neurology	3	2.8
Neurosurgery	1	.9
Obstetrics & gynecology	4	3.8
Ophthalmology	2	1.9
Orthopedic surgery	3	2.8
Otorhinolaryngology/ENT	1	.9
Pathology	1	.9
Peadiatrics	1	.9
Pediatric cardiology	1	.9
Peadiatric oncolgy	1	.9
Pediatric surgery	1	.9
Pediatrics	7	6.6

Plastic surgery	1	.9
Psychiatry	7	6.6
Pulmonology	5	4.7
Rheumatology	1	.9
Urology	1	.9
Vascular Surgery	1	.9
Total	106	100.0

Dr Shakir Ali Jaffrey	Dr Khawaja Sharif ul Hasan
Dr Fazal Elahi	Dr Rizwan Azmi
Dr Mushtaque Ahmed	Dr Samdani
Dr Jokhio	Dr Sharif
Dr Razia L Ansari	Dr Waheed
Dr Rahimtola	Dr Muzaffar
Dr Ghaffar Billoo	Dr Salahuddin
Dr Mohammad Shafi Qureshi	Dr Akram
Dr Noorjehan Samad	Dr Noor
Dr MU Islam	Dr Masood Hameed
Dr Masroor	Dr Nazli Sheikh
Dr Afaq	Dr Malik A Sheikh
Dr Ali Mohammad Ansari	

Table 2: list of favorite teachers

Dow Memories

- Student Union elections 1978-79, the counting of votes/results night was very memorable though later the oath-taking ceremony was (and still is) a nightmare.
- Convocation day
- DMC student union elections; Our first election in Dow when khokhar & saquib contested for CR
- Fear of Prof. Razia Ansari's hospital's rounds.
- Carrying a specimen of brain in a big Dalda tin from Shahabuddin secretly
- Musical evenings, concerts & other social events
- Hygiene tour
- Visits to the tuck shop
- When the six of us went to Burns road to have chat in a 'Ghora Gari'
- Being part of a team who made the voluntary blood bank
- Picnics
- Having afternoon tea with the friends in the cafeteria while studying for the exams
- Being a CR
- Carefree life; friends; chatting over tea & samosas at cafe civil
- Winning the elections in which Asim Farid who won as a social secretary
- Playing cricket with my friends on the college campus
- Running DMCSU with KT Uzair as the President
- Cafe bacteria burger

- When we were caught with a lower limb given to us by Shabu
- When Shahbudin tried to sell me my own stolen anatomy atlas at half price.
- The long sittings in library and evening visits to the wards

Funniest moments reported

- Harassing the couples all over DMC
- Get-togethers arranged by Aslam (Goli)
- Being elected the CR
- Alamgir falling off the stage
- Final year theory examinations
- Dissecting table jokes to ease the stress of oncoming stage
- Listening to Dr Waheed's Ashaar
- Chanting nicknames
- Heckling the other opposing cricket team so that our side wins
- Being coached by KT Uzair and Jamil Farooqui what to do on and off stage in the election rallies
- Patties from the sandwich went missing on three consecutive days
- Bus # 9 (North Nazimabad point) with class fellows around and Nadeem Shakir making fun of every one
- Participating in the Urdu ghazal competition and saying my first and last ghazal
- Eating samoosas and singing songs
- Reading the first couple list posted in the boys wash room
- Once I managed to got away with night duties in Gynae ward run by Professor Razia Latif Ansari. I went to watch cricket test match between Pakistan and Australia. On return to the ward I made excuse of severe neck pain due to muscle spasm and surprisingly Pakistan won
- Making the clinical groups
- At the snack corner, when like a Sardarji I spilled my drink on her, when she asked for the time.
- Seeing and listening to KT Uzair's jokes
- Picnics
- Many funny moments can't single one out.
- When my friend kept referring to herself as 'hum' instead of 'mein' and people thought she was talking about two persons.

Memoirs of Dow

M. Aslam Ladha

Today as I sat down to write memoirs of Dow, I don't know where to start and what to write. I wrote in our Factograph in 1983:

" After many many years if somebody would ask about memories of my past, I'll say my college life, and in those college years when I was in 4th year and in that year, tour 81 and in that year, valley of Swat and Tariq Rashid"

Certainly the most important memories belong to the year when I had the honor to represent our batch. I have quite mixed feelings when I go down this memory lane. I am excited to remember those good old days, the fun, the banter, carefree life and no worries, well – not too many anyway. On the other hand, I remember some of the most painful memories of those days when some of my very dearest friends left us – mostly I remember Tariq Rashid, Asim Khan and Kazi Uzair. In more recent years some other very dear friends too departed to the eternal life. Bakhtiar Bazmi and my very dearest Junaid.

First the CRship: As I began to get into my role as CR, I began to hear "CR dheela haye" "Darta haye" "Baccha haye Baccha". To my great disadvantage, I was compared with Hanif. He left a glorious example of what a good CR should be. I was completely new and was trying to find my feet. The cause of this "dheela" label was the delay in the announcement of the third year result by Professor Muzaffar Baba. Everybody was demanding that I should be more firm, brave etc. I myself was very scared of Baba and did not have the courage to confront him. Anyway, one evening me and Hanif went to his house and politely requested to complete the result but to no avail. Next morning a group of girls was passing by and made the same demand for the result and out of blue, an idea – a thunderbolt – struck me. I said, yes, you are right. I visited Baba yesterday and the result is ready. Unfortunately it is very bad. Only 50% pass score. He offered to look into it again to improve it but that would take time. I think that we should wait no more. I have taken a firm stand to get the result out now no matter what the consequences are. We'll deal with it bravely. On hearing this, all the girls almost collectively fainted. The news spread faster than the internet. By that afternoon, I was overwhelmed by the reaction of class fellows trying to persuade me to not take a firm stand. "What does it matter, we can wait" "Why are you taking this silly stand..... So, to respect the majority view, the result was not rushed. Everybody was happy. Some of my badmash friends smelled a rat and figured out what was going on and spread the word around. It was all taken in good humor. Everybody was happy.

The Hygiene tour: There are so many stories in this one story. Stopping the train in the middle of the night and sitting on the railway track till our demands were met, stealing of food between different groups, Bus rides in Lahore, a very unconventional disco dance in shorts at Lahore university campus, campfire and pushtoon dance, Many of our friends fawning ad falling over themselves for FJ girls etc. Here I found out that Tariq Rashid left the group and returned to Karachi for family reasons. He didn't inform me because he knew that I wouldn't let him go. He was the key person

in the organizing group. I was very distressed and unhappy. Anyways, we kept going and next morning, to my utter surprise, Tariq was the one to wake me up. He was apologetic and said that he returned from half way as he thought that I would be upset with him and he did not want to desert us in the middle. Only the later events were to prove that he was not destined to return to Karachi - Never. As we reached Valley of Swat, tragedy hit us. Tariq Rashid with one of the local friends met an unfortunateaccident and was lost in the river. This was the most tragic and most stressful period of my CR days.

There were several more things that year. Get together at YMCA raised quite a few eyebrows as invitees included Ruhani Bano, relatively bold singer in those days. I can not forget interclass tournaments, particularly Hockey final where novices led by Tariq Rashid won the tournament to the utter disappointment of the favorites. Our daily struggle with the department of Forensic Medicine, Professor Umar Khan and Dr. Farhat Mirza, is another long story for another day. The demand for No Pathology viva, Publications, picnic etc were other stories of the that year.

KTUzair : During our 4th year, I became increasingly close to Kazi. He was quite a charismatic person and a lot of fun to be with. He, with some other friends, made me contest for the Clinical Secretary elections. During the student union days, with him being the President, we did a lot of things together. After graduation he went to US for his residency, only to return later with fatal illness. The days that I spent with him in that phase of his life were perhaps the most traumatic that I could recall. He was destined to leave us early, may god bless his soul in eternal peace.

Anisa: Sarosh wanted me to write something about a supposedly romantic story about me and Anisa. There wasn't any movie style story here. We were good friends and there were some family relations. Certainly I requested my Mom to consider this and she happily agreed. Success of a Marriage, as most of you by now may know, is a matter of luck. As later years were to prove, we were extremely lucky. Anisa has a major cotribution in whatever small amounts of success I have had in life. She has a major obsession with cleaning, particularly my bank account, which somehow is always left gasping for money after her kind attention.

Over the years, particularly early years after graduation I regretted a lot that I got engaged in Dow politics as it was a very time consuming business. I felt that I would have been much better off if I had spent all this time studying – like acchay bacchay. After graduation, I had to work much harder to make up for the lost time. On the other hand, this experience gave me the confidence, ability to handle difficult situations, take the initiatives and many other things that I learned that were to pay off in later years. I was able to make very good friendships across green and red borders. So on balance, If I were to be asked if I would do the same if I can go back 25 years. The answer is yes. For two reasons, one – that it was quite an honor and I still cherish the memory of having represented an august group of 84ians and second and perhaps more important is that I would like to give you more Golis.

Ata haye yaad mujh ko yaad Guzra hua zamana .....

With my love and regards to all 84ians.

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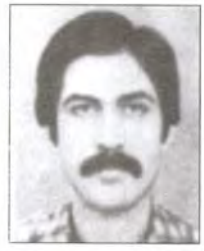

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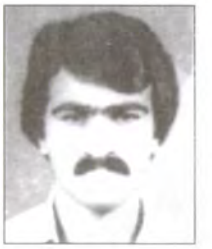

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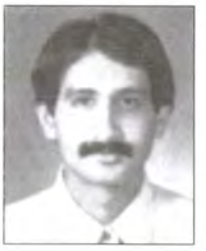

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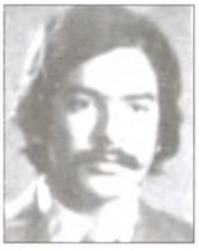

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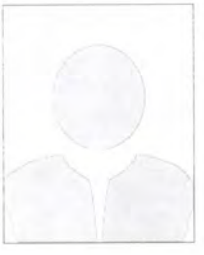

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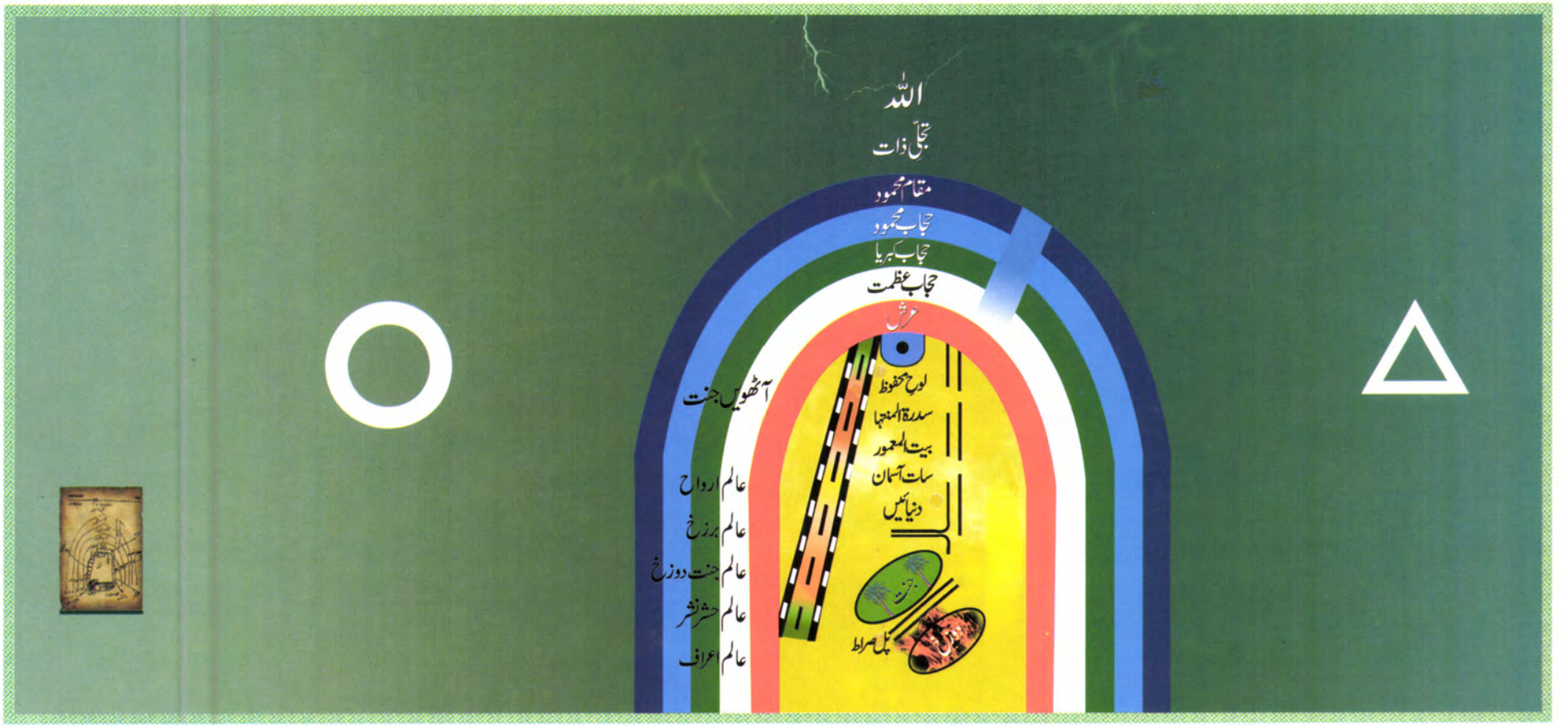

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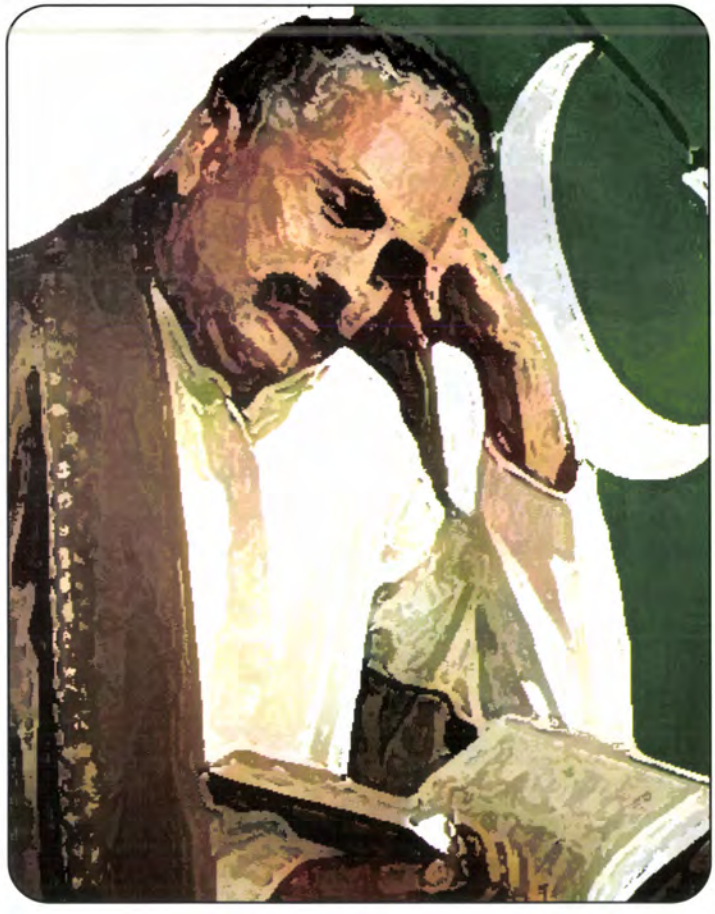

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جو سچ پوچھو تو کچھ چہرے ہی پہچانے نہیں جاتے
کئی ایسے ہیں اب بھی ڈاکٹر مانے نہیں جاتے
کئی تو سال میں اک دن کتب خانے نہیں جاتے
کئی لکھتے ہیں آئے دن نئے مضموں رسالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

نظر ہر پھول پر رکھتے تھے ہم، اک وہ زمانہ تھا
تڑپ دیدار کی رہتی تھی، لیکچر تو بہانہ تھا
بھلا بیٹھے ہیں ہم اپنا وطیرہ جو پرانا تھا
وہ منظر شاذ و نادر آ ہی جاتے ہیں خیالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

رہیں جو راز اب تک خصلتیں اپنی وہ ظاہر ہیں
کئی ہم میں سیاستداں کئی بزنس میں ماہر ہیں
کئی میری طرح یونہی سمجھ بیٹھے کہ شاعر ہیں
کئی داڑھی بڑھا کر مل گئے اللہ والوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

کوئی تو مشرق وسطی کو اپنا گھر بنا بیٹھا
کوئی اس شہر سے نکلا تو امریکہ میں جا بیٹھا
کوئی یورپ کی گوری قوم سے دفتر سجا بیٹھا
کسی کے روز و شب کٹتے ہیں افریقہ کے کالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

کوئی اتنا بڑا ہے آسماں پہ پاؤں دھرتا ہے
کوئی راضی اسی میں گزر اوقات کرتا ہے
کسی کا لمحہ لمحہ آرزوؤں میں گزرتا ہے
کسی کو چین ملتا ہے تو پشمینے کی شالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

کوئی عزت کے پیچھے ہے کوئی شہرت کا خواہاں ہے
کوئی طالب ہے عہدے کا کوئی دولت کا خواہاں ہے
کوئی مصروف ہے اتنا دم فرصت کا خواہاں ہے
تعجب کیا ہمیں پھنسنا تو تھا دنیا کے جالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

کوئی اب بھی پرانی وضع پہ بنتا سنورتا ہے
کوئی ناخوش ہے شادی میں مگر کہنے سے ڈرتا ہے
کوئی نالاں ہے بیوی سے کہ ہمسائی پہ مرتا ہے
کوئی آیا نہیں اب تک حسیناؤں کی چالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

کئی نے کر کے دو دو شادیاں کی اپنی بربادی
کسی کو اب بھی حاصل ہے کنوارے پن کی آزادی
کوئی اتنی سبک رفتار، کہ نانی ہے یا دادی
کوئی محتاط اتنی، اب پھنسی ہے نونہالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

کبھی جو واجبی تھی شکل، اب بالکل نگوڑی ہے
جسے ہم ناک کہتے تھے، وہ اب عینک کی گھوڑی ہے
کہیں کس سے، ہمیں دھوکا دیا ہے اپنے دانتوں نے
جہاں بتیس بستے تھے، وہاں اب ایک جوڑی ہے
مزا پہلا سا اب باقی نہیں میٹھے نوالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

ہر اک کو چھیڑنا سب کو ستانا کس کی عادت تھی
کسے کس سے لگاؤ تھا، کسے کس سے محبت تھی
سبھی مرتے تھے کس پہ، کون سب سے خوبصورت تھی
بھلا دو عبد، اب رکھا ہی کیا ہے ان سوالوں میں
ہزاروں انقلاب آئے ہیں ان پچیس سالوں میں

ڈائو کرکٹ ڈیز

(Dow Cricket Days)

کامران قریشی

مضمون کے شروع میں ہی کریڈٹس دیتا چلوں شاید زیادہ تر حضرات مضمون کو آخر تک پڑھنے کی ہمت نہ کر پائیں۔ سب سے پہلے سروش صدیقی کے سر جاتا ہے جنہوں نے ہمارے پہلے مضمون کو اس لئے رد کر دیا کہ ہم نے فراز پہ لکھا اور وہ بھی ان کی شاعری پہ اور پھر یہ کہ غلطی سے کسی امریکہ کے رسالے میں چھپ بھی گیا۔ دوسرا نام علی امام کا لکھوں گا جنہوں نے ہمیں یقین دلانے کی کوشش کی کہ ہم لکھ سکتے ہیں۔ چنانچہ ان کو غلط ثابت کرنے کیلئے اس بار ہم مضمون اردو میں لکھ رہے ہیں اور آخر میں آصف اسلم کہ جن کے سپرد ہم نے غلطیوں کو نکالنے کی ذمہ داری سونپ دی۔ ساری غلطیاں درست کرنے کے بعد اب تمام بیان ان ہی کا رہ گیا ہے سو جزا و سزا ان ہی کے نام۔

کرکٹ کے کھیل کے بارے میں مشہور ہے کہ بغیر انگریزی کی مدد کے نہ تو اس کے بارے میں لکھ سکتے ہیں نہ بول۔ مثلاً اس کی کمنٹری سن لیجئے ''ڈینس للّی آئے اور Bounce بال کرائی اور عمران خان نے شاندار Hook Shot کھیلا اور گیند Boundary Line کے باہر'' شاید اس لیے اسے انگریزوں کا کھیل کہتے ہیں۔ اس بات کا ہمیں یہ فائدہ ہوا کہ مضمون اردو یا انگریزی یا دونوں سیکشن میں چھپ سکتا ہے اور اس لحاظ سے نایاب (Novelty) ہے اور سروش کی باقی شرط بھی پوری ہوگئی۔

یوں تو کرکٹ کے جراثیم ہماری تمام قوم میں موجود ہیں، ہمیں کرکٹ کی دائمی بیماری ہے۔ چنانچہ ۱۹۷۷ء میں میڈیکل کالج کے داخلہ کے انٹرویو کے بعد جب ہم باہر آئے تو سب مسیحاؤں کو بیشمار گھمبیر سوال کرتے پایا۔ ہماری زبان پر صرف ایک ہی سوال تھا کہ آیا ڈاؤ کی کوئی کرکٹ ٹیم ہے یا نہیں۔ جواب سن کر ہماری خوشی کی انتہا نہ رہی اور ہم نے Trial کے دن کا انتظار اس امید سے کرنا شروع کر دیا کہ پڑھنے لکھنے والوں کے کالج میں کرکٹ ٹیم میں جگہ ضرور مل جائے گی۔

آخر Trial یا Selection کا دن بھی آ گیا۔ پانچ یا چھ لڑکے Trial کیلئے پہنچے اور شاید اتنے ہی Selector تھے۔ ان دونوں کو ملا کر ٹیم مکمل ہوئی اور اس طرح ہم فوراً ہی چن لیے گئے۔ ہماری خوش قسمتی کہ آٹھ لڑکے خود ہماری ہی کلاس کے تھے۔ ان میں محمد عارف، امجد علی، انور خان، اظہر صدیق، عاصم فرید، رضوان کرائیلا، الطاف کریم اور ہم خود شامل تھے۔ ٹیم کے چناؤ کے ساتھ ہی ہمیں یہ آگاہ کر دیا گیا کہ:

۱۔ ڈی ایم سی (DMC) کبھی ایس ایم سی (SMC) سے جیتی نہیں ہے (ساتھ ہی اس کی وجہ یہ بتائی گئی کہ ہمارا کالج پڑھنے والوں کا اور ان کا کھیلنے والوں کا ہے)۔

۲۔ Inter Collegiate میں ہم ہمیشہ پہلے راؤنڈ میں کٹ جاتے ہیں۔

۳۔ ہمارے پاس کوئی Cricket Ground نہیں ہے جس میں Practice کی جا سکے۔

اس کے باوجود ہم نے ہمت نہ ہاری اور ٹیم کے ساتھ ڈٹے رہے۔ ٹیم ہماری بہت مضبوط تھی، ٹیم کے رنز بنانے کی تمام ذمہ داری عارف اور امجد کی تھی یہ دونوں کھلاڑی اتنے شاندار تھے کہ ان کے بعد اور کسی کو جرات نہ ہوتی کہ وہ رنز بنائے۔ چنانچہ اگر ان دونوں کا اسکور 100 ہوتا تو ٹیم کا اسکور 110، ویسے بھی یہ ہماری قومی روایت تھی بھلا ہم کون ہوتے ہیں یہ روایت توڑنے والے۔

ٹیم کے اوپننگ فاسٹ باؤلر الطاف کریم تھے۔ یہ کسی بھی ٹیم کو دو سے زیادہ Over نہیں کھیلنے دیتے کیونکہ دوسرے Over کے بعد امپائر انہیں Jerk کرنے پر Bowling سے باہر کر دیتا لیکن یہ ان دو اوورز میں اپنا کام پورا کر دیتے اور اکثر دو یا تین کھلاڑی آؤٹ کر دیتے۔

ٹیم کے مایہ ناز لیفٹ آرم اسپنر رضوان کراٹیلا تھے۔ان کی خاصیت یہ تھی کہ نہ ان کی بال اسپن ہوتی نہ سلو۔اسی مغالطے میں Batsman آؤٹ ہوتے جاتے۔انہیں سلوسلولیفٹ آرم باؤلر کہا جائے تو بے جا نہ ہوگا۔کئی بار ایسے لگتا کہ بال بلے باز تک شاید نہ پہنچے، پر Lenghth ان کی کمال کی تھی،تمام دن ایک ہی جگہ بال پھینکتے گویا ایسے لگتا کسی پڑی ہوئی چونی کا نشانہ لے رہے ہیں۔

دوسرے فاسٹ باؤلر انور خان تھے،اسی زمانے سے میدان میں اترتے تو جیسے کھیل کا نہیں لڑائی کا میدان ہو۔سب سے لمبا Runup اور سب سے تیز بھاگتے ہوئے Inswing کراتے۔Batsman کو آؤٹ کرتے،اتنی وکٹیں نہ لیتے جتنی Deserve کرتے اور دوسرے باؤلروں کو ان کی محنت کا فائدہ ہوتا۔اکثر کہتے یہ کامران کو کیسے وکٹیں ملتی ہیں۔

عاصم فرید ٹیم کے میڈیم پیسر تھے۔ہر طرح سے وہ میڈیم تھے۔مثلاً میڈیم رنگ،میڈیم قد،میڈیم بال پر Pace کا نام ونشان نہ تھا۔اکثر کافی دور سے آ کر میڈیم بال کر دیتے اور بیٹسمین Pace کی تلاش میں آؤٹ ہو جاتا۔

اظہر صدیق ہمارے آل راؤنڈر تھے۔کبھی یہ Batsman All Rounder اور کبھی Bowler All Rounder کا فرض انجام دیتے۔یعنی جب رنز کی ضرورت ہوتی تو Bowling اچھی کرتے اور جب وکٹیں درکار ہوتیں تو چوکے چھکے لگاتے۔ان کا شمار وقت پہ کام آنے والے کھلاڑیوں میں تھا،دوسری ٹیم کیلئے۔

ویسے تو ٹیم میں سارے ہی کھلاڑی Allrounder تھے لیکن صرف ایک ہی Genuine Allrounder تھا جو کہ ہم خود تھے۔ہمیں اس Catogary میں اس لیے شامل کیا گیا کہ ہم کرکٹ کے تمام شعبے یعنی بیٹنگ، بولنگ اور فیلڈنگ میں سے ایک بھی ٹھیک طریقے سے نہ کر پاتے۔ ویسے ہم اس بات میں خوش تھے کہ ہم اس Category میں تھے جس میں عمران خان اور بوتھم جیسے مشتاق کھلاڑی شامل تھے۔ Genuine Allrounder ہونے کا ایک فائدہ ضرور تھا چاہے آپ ایک وکٹ لے لیں یا ایک کیچ پکڑ لیں آپ کا نام دوسرے دن Board پر ضرور آ جاتا اور انور علی خان کا پھر وہی گلا۔اب بورڈ کا ذکر ہوا تو یہ سراسر ناانصافی ہوگی کہ اس کے بارے میں کچھ نہ کہا جائے۔صبح سویرے جب پہلا Point ڈی ایم سی میں داخل ہوتا اور آہستہ آہستہ عمارت کے تاریخی پتھر نمودار ہوتے اور بس صحن کے سامنے پہلا Student اتارتی تو یہ بورڈ شایان شان کھڑا تمام Students کو کرکٹ کے ہوئے میچ کا حال سناتا۔ہمیں آج تک اس بات کا پتہ نہ چل سکا کہ اس دور میں جب SMS اور Internet تو دور کی بات ہے فون بھی مشکل سے ملا کرتے،اسے کون اس تیزی سے Manage کرتا تھا۔ٹیم کے کھلاڑیوں سے پوچھا تو سب نے اس نیکی سے انکار کیا۔دنیا میں کرکٹ،شہرت،دولت یا پھر صحت کیلئے کھیلی جاتی۔ہمارے کھلاڑی صرف اس بورڈ پہ نام آنے کی خاطر کھیلتے۔

۱۹۸۴ء میں جب ہم House Job کا انٹرویو دے کر باہر آئے تو تمام ہم عصر بڑے خوش زندگی کے نئے باب کے بارے میں باتیں کرتے ایک دوسرے میں مگن نظر آئے۔ہمیں صرف اس بات کی خوشی تھی کہ ڈاؤ کے اس دور میں ڈی ایم سی کی ٹیم ایس ایم سی کو بری طرح ہرا چکی تھی۔ہماری ٹیم Inter Collegiate کا سیمی فائنل بھی کھیل چکی تھی۔ہاں البتہ کرکٹ گراؤنڈ سے ہم اب بھی محروم تھے۔

آتا ہے یاد مجھ کو
کرکٹ کا وہ زمانہ
ڈاؤ تھا جب ہمارا
گھر اور ٹھکانہ
پڑھنے گئے تھے لیکن
موٹو تھا یہ ہمارا
کھیلنا اور کھلانا
یادوں کی بارات
جذبوں کی برسات
سلور جوبلی ہے آج
پھر ہو جائے ساتھی
خوب گانا اور بجانا

DOWITE
1984
2009

ڈاؤ میں استقبال یوسفی

آصف اسلم

ڈاؤ یونیورسٹی آف ہیلتھ سائنسز کے زیر اہتمام
عالمی مشاعرے میں مشتاق احمد یوسفی کو پیش کیا جانے والا
سپاس نامہ، اپریل (۲۰۰۵ء)

محترمی ومکرمی مشتاق احمد یوسفی صاحب
محترم وائس چانسلر ڈاؤ میڈیکل یونیورسٹی، محترم اساتذۂ کرام اور ڈاؤ میڈیکل کالج کے ساتھیو جو ہم سبق بھی ہیں، ہم مشرب بھی اور ہم راز بھی۔
محترم شعرائے کرام اور سامعینِ مشاعرہ
خواتین وحضرات،

آج میں گھر سے نکلا تو راستے میں ایک دیوار آ گئی۔ سچ مچ کی دیوار نہیں، ورنہ میں اس سے سر پھوڑ کر وہیں بیٹھ رہتا اور آج کی محفل سے بچ نکلنے کا ایک معقول بہانہ مل جاتا۔ دیوار جو ملی تو وہ یاد کی دیوار۔ یہ اس وقت کی دیوار ہے جب آتش جواں تھا اور ڈاؤ میڈیکل کالج میں طفلِ مکتب تھا۔ آج کل تو فتور کا زمانہ ہے اور وہ بھی نیت کے، ان دنوں کراچی میں فساد ہو رہا تھا، لسانی فساد اور اس طرح کہ زبانیں اپنے بولنے والوں کے ساتھ ایک دوسرے کے مقابل آن کھڑی ہوئی تھیں۔ دیوار یہی ڈاؤ میڈیکل کالج کی دیوار تھی، جس کے سایہ میں بیٹھ کر ہم خود کو فرماں روائے ہندوستان سمجھتے تھے کہ اگر ہم ڈاؤ کے طالب علم ہیں تو پھر ہم اس کے ہیں، ہمارا پوچھنا کیا۔ اس زمانے میں نوشتۂ تقدیر پڑھنا اتنا ضروری نہ تھا، کالج کی اس دیوار کو پڑھ لینا کافی تھا، جس پر ہر عقیدے اور سیاسی وابستگی، ہر قوم اور ہر جنس کے حق میں حق، ناحق نعرے لکھے ہوتے تھے۔ کوئی خونِ دل میں انگلیاں ڈبو کر دیرینہ مطالبہ لکھ رہا تھا—— مکرانی کو قومی زبان کا درجہ دو۔
اس کے نیچے کسی دل جلے نے سیاہی مائل سرخی سے بلکہ یوسفی صاحب کے بقول خونِ دل کی سیاہی سے لکھ دیا تھا—— یہ مُنہ اور مسور کی دال۔
ہم تو اس وقت بھی یوسفی صاحب کے پڑھنے والے تھے۔ ہمیں آٹے دال کے بھاؤ کی کیا خبر تھی۔ ہاں، یہ سُن رکھا تھا کہ غالب کو جب بہادر شاہ ظفر نے دال بھیجی تو انہیں نے دال کی مداحی میں لکھا:

یہ شاہ پسند دال ہے، بے بحث و جدال
ہے دولت و دین و دانش و داد کی دال

دال کی داد غالب کی درباری مجبوری تھی، ہم اس دال سے بھی محروم ہیں کہ اگر وہ میسر ہو جاتی تو یوسفی صاحب کے روبرو کچھ کہنے کی جسارت کرتے اور یوں بودمِ بے دال نہ بنتے۔

دال اور دیوار بھی اس وقت سے یاد آئے جا رہی ہے جب آج صبح سویرے محترم سلطان احمد صاحب کے ٹیلی فون سے آنکھ کھلی اور

انہوں نے ایک عدد سسرالی حکم نامہ جاری کیا کہ محفل میں شریک ہونا اور یوسفی صاحب کے بارے میں گفتگو کرنا ہے۔ ان کو سمجھانا چاہا کہ مجھے یہ طاقت، یہ مجال کہاں۔ مگر ہاں کیے ہی بنی اور وہ بھی یوں کہ سلطان بھائی کے نام کا خیال آ گیا۔ مجھے ان سے جو ڈر لگتا ہے وہ ان کے نام سے شروع ہوتا ہے۔ آپ جس تجزیہ نگار کا کالم اٹھا کر پڑھ لیں، آخر میں اعتراف یہی نکلتا ہے کہ مسلمانوں میں سب سے بڑا عیب یہ ہے کہ خوئے سلطانی نہیں گئی۔ یہاں یہ وضاحت کر دوں کہ کوئی غافل یہ گماں نہ کرے شاید یہ سلطان بھائی کے ''گھر میں سے'' ہوں اور اگر ان کے گھر میں سے، ''ہمارے گھر میں سے'' شکایت کر دیں تو پھر یوسفی صاحب کے مداح ہونے کے باوجود ہم کسی کو منھ نہ دکھا سکیں گے۔ مسور کی دال ہی پیٹتے رہ جائیں گے۔

سلطان بھائی کا حکم مجبوری ٹھہرا اور وہ بھی گھریلو! اس پر محترم وائس چانسلر صاحب کا ارشاد گرامی۔ یہ بلاوا ماننا تھا کہ پھر یہ لحاظ کیے بغیر کہ یہ میری حیثیت اور مقام سے بڑھ کر ہے، ڈاؤ کے نام پر میں کھنچا چلا آیا۔

میں بھی جلے ہوؤں میں، ہوں داغِ ناتمامی

اس درس گاہ کے در و دیوار میں کیسے سہانے خواب بُنے اور کیسی خوش گوار یادیں وابستہ ہیں ان دنوں سے۔ ان ہی میں سے ایک یاد ڈاؤ کے مشاعروں کی بھی ہے۔ یہ مشاعرے ایک روایت بن گئے تھے، دیارِ علم کی روایت، اسی شہر کی روایت۔ شعر و ادب کے کتنے ہی بڑے ناموں کو یہاں دیکھنے اور سننے کا اتفاق ہوا۔ ہم ایسے طالب علموں کو لگتا تھا کہ علم و ادب کی کہکشاں سے ستارے اُترے ہوئے ہیں۔ مجھے یاد ہے کہ مارشل لاء کے دنوں میں احمد فراز نے یہاں اپنی نظم محاصرہ پڑھی اور ہم نے ایک سرخوشی کے عالم میں سُنی۔ ان مشاعروں کا مخصوص انداز ان کی ہونگ میں نمایاں تھا۔ ایک جدید شاعرہ نے نظم شروع کی کہ، میرے اندر ایک چھوٹی سی بچی ہے اور پیچھے سے آواز آئی، گائنی کا کیس ہے بے گائنی کا!

ڈاؤ میڈیکل کی ایک روایت تھی کہ یہ میڈیسن اور سرجری میں اختصاص و مہارت کے لیے اعلیٰ درجے کی درس گاہ تو تھا لیکن زندگی کے ہُنر اور علم و فن کے تمام شعبوں میں اپنے طالب علموں کی صلاحیتوں سے جگمگاتا تھا۔ ہمارے ایک دوست تھے جو دیوانِ غالب سے میڈیسن کے ہر معاملے کی فال نکال لیا کرتے تھے۔ مثلاً وہ شعر پڑھا کرتے—

پیدا ہوئی ہے، کہتے ہیں، ہر درد کی دوا
یوں ہو تو چارۂ غم الفت ہی کیوں نہ ہو

ان کا کہنا تھا کہ فارما کولوجی کا دقیق علم اسی شعر سے پھوٹا ہے۔ مشکل اس وقت پڑتی تھی جب وہ سرجری کے معاملات میں غالب کے شعر لے آیا کرتے تھے۔

بس کہ روکا میں نے اور سینے میں ابھریں پے بہ پے
میری آہیں، بخیۂ چاکِ گریباں ہوگئیں

مگر چاک گریباں کے بجائے وہ اس شعر کا رشتہ بریسٹ کینسر کی گروتھ سے جوڑ دیا کرتے تھے۔ ناطقہ بگریباں ہے...

یوسفی صاحب نے اپنے ایک مضمون میں ایک پروفیسر صاحب کا ذکر کیا ہے جنھوں نے اردو ادب میں وہ مہارتِ تامہ حاصل کی کہ غدر سے پہلے دلی کے سودا بیچنے والوں کی آوازوں پر اعلیٰ تحقیق کرنے کے لیے لندن سدھار گئے۔ میں یوسفی صاحب کی توجہ اس فصیح و نستعلیق بولی کی طرف مبذول کرانا چاہوں گا جس میں ڈاؤ کے طالب علم ایک دوسرے کے ساتھ بڑی سے بڑی اور گہری سے گہری بات اس طرح کہہ جاتے تھے کہ شرمندۂ الفاظ بھی نہ ہوتے۔

یوسفی صاحب کے سامنے لب کشائی کرنے کی جسارت کرتے ہوئے آج ڈاؤ کی اسی فصیح و بلیغ زبان کا سہارا لینے کو جی چاہتا ہے کہ ان کے فن کا حق شاید اسی میں ادا ہوسکتا ہے۔ ڈاؤ کا کوئی بھی طالب علم یوسفی صاحب کی مزاح نگاری پر گفتگو کرتے ہوئے باآسانی کہہ سکتا

ہے کہ آج کل اردو ادب میں طنز و مزاح رو بہ زوال ہیں، طنز و مزاح کا ٹیپا نکل گیا ہے اور سارے لکھنے والے لبھن ہیں۔ یوسفی صاحب کو پڑھیے تو لگتا ہے کہ وہ زمستانزار زار ہیں، یوسفی صاحب پھریری ہیں، بلکہ شوم پھریری۔ میں یہ وضاحت کردوں کہ ڈاؤ میڈیکل کالج کے فصحا نے پھریری کی وضاحت کی تھی کہ یوں تو ہر آدمی میں پھریری ہے، مگر اصل میں پھریریوں کی تین قسمیں ہیں۔ سمپل پھریری، جس میں پھریری ہو اور کچھ نہ ہو۔ پھر شوم پھریری۔ جو اوپر سے نیچے پھریری ہی پھریری ہو اور اس سے بھی آگے لٹل ہاؤس آن دی پھریری۔ یعنی وہ پھریری جس میں قیام کی بھی گنجائش ہو۔ پروفیسر چارلز ڈی پھریرا کی ٹیکسٹ بک میں پھریریوں کی یہ تین اقسام درج ہیں۔

پھریریوں کی اقسام اگر آپ نے کلاس میں نہیں سُنیں تب بھی کوئی فرق نہیں پڑتا۔ بہت سے طالب علم کلاس میں جانے کی زحمت ہی گوارا نہیں کرتے تھے۔ وہ کینٹین میں بیٹھ کر درسِ طب و ادب حاصل کرلیا کرتے تھے۔ وہیں بیٹھ کر ہم نے بھی یوسفی صاحب کی کتابیں پڑھیں اور اگر سرجری کا ذکر نہ کر رہا ہوتا تو ضرور یہ بتاتے کہ یہ روایتیں اور یہ پسندیدگی سینہ بہ سینہ چلتی آ رہی ہے۔

اس طویل طویل تمہید کا مقصد یہی تھا کہ آپ سمجھ لیں کہ طب و ادب، ڈاؤ میڈیکل کالج اور یوسفی صاحب کا رشتہ کتنا گہرا اور دیرپا ہے۔ پروفیسر چارلز ڈی پھریرا یا ان کے دیسی مقلد نے یہ ضرور لکھا ہے کہ Laughter is the best medicine۔ ہم نے شہر کے کئی ماہرین سے پوچھا، سبھی نے اس کی تصدیق کی۔ (سوائے ڈاکٹر شیر شاہ سیّد کے، جنہوں نے کہا مجھ سے نہ پوچھو، میں تو گائنی کولوجسٹ ہوں!) اور جب یہ بات درست ٹھہری تو پھر یوسفی صاحب کو مریضوں کے زُمرے سے نکال کر ڈاکٹروں کی صف میں شامل کرنے میں کیا مضائقہ ہے۔ وہ اپنے قلم سے جادو جگاتے ہیں، ان کی تحریروں میں شگوفے پھوٹتے ہیں، وہ کہیں قہقہے اور کہیں تبسم بکھیرتے ہیں۔ یہ ان کا اعجازِ مسیحائی ہے۔ اس لیے عین مناسب ہے کہ مسیحائی سے وابستہ یہ درس گاہ، یوسفی صاحب کو خراجِ عقیدت اور نشانِ سپاس پیش کرے۔ بلکہ میں تو محترم وائس چانسلر صاحب سے یہ پرزور سفارش کروں گا کہ اس مسیحائی کے باوصف وہ مشتاق احمد یوسفی کو اعزازی ڈاکٹر آف میڈیسن کی ڈگری تفویض کرے۔

خواتین و حضرات، یوسفی صاحب کے کمالِ فن کا تجزیہ کرنے کا یہ موقع نہیں۔ ان کو مبارک باد دینا بھی میرے لیے چھوٹا منہ بڑی بات ہے۔ مبارک باد کے قابل تو ہم سب ہیں کہ یوسفی صاحب ہمارے درمیان موجود ہیں۔ میں پھر دُہراؤں گا کہ ہم اس وقت اردو ادب کے عہدِ یوسفی میں جی رہے ہیں۔ تو آج ہم اس عہد ساز شخصیت کو دیکھ رہے ہیں، سُن رہے ہیں۔ ایسے موقعوں پر غالب ہی یاد آتا ہے——

ترے جواہر طرفِ کُلہ کو کیا دیکھیں
ہم اوجِ طالعِ لعل و گہر کو دیکھتے ہیں

رہا ان کے فن کا تعارف اور گفتگو—— تو ایسے قاتل کا کیا کرے کوئی؟

مجھے اگر کوئی گلہ ہے تو ان کی کم آمیزی کا۔ یوسفی صاحب نے طے کر رکھا ہے کہ گیارہ سال کے وقفے کے بعد کتاب شائع کرتے ہیں۔ مانا کہ سرکاری منصوبہ سازوں اور دوسرے بوجھ بجھکڑوں کے مطابق، وقفہ ضروری ہے مگر اتنا طویل ضروری نہیں۔ ہم یوسفی صاحب کی تحریروں کے مشتاق ہیں اور وہ اردو شاعری کی روایتی بُت طناز کی طرح مشتاق جن۔ ہم پھر بھی ہل من مزید کہے جائیں گے—— یہ شعر غالب نے مشتاق یوسفی صاحب کے لیے تو کہا تھا——

میں ہوں مشتاق جفا، مجھ پہ جفا اور سہی
تم ہو بیداد سے خوش، اس سے سوا اور سہی

شبلی نامہ

ڈاکٹر فرمان فتح پوری

خلیل اللہ شبلی کی ''ادھوری کہانیاں'' پڑھ رہا ہوں اور دعائیں دے رہا ہوں۔ کاش اُن کی مکمل کہانیاں بھی جلد سے جلد سامنے آئیں اور ادھوری کہانیوں میں انسان کے جن دکھوں کی عکس ریزی ہے، ان کا مداوا بن جائیں کہ ان کے کہانی کہنے کا یہی اصل مقصود ہے اور میرے کہانی پڑھنے کا یہی جواز۔

شوکت صدیقی

خلیل اللہ شبلی نے اپنے افسانوں میں صاف اور کھری بات کہی ہے۔ کہیں کہیں بین السطور بھی کچھ کہا ہے تو اظہار و ابلاغ کے لئے ایسی دور از کار علامتوں کو وسیلہ نہیں بنایا کہ کوئی پوچھے کہ یہ کیا ہے تو بتائے نہ بنے۔ ادھوری کہانیاں ان کے افسانوں کا پہلا مجموعہ ہے۔ انہوں نے جملوں کی تراش خراش اور الفاظ کے انتخاب میں ایسی جاں سوزی سے کام لیا ہے کہ کسی جملے میں جھول نہیں۔ کوئی لفظ بھرتی کا نہیں۔ شبلی نے اسی محنت اور ریاضت سے اپنا ادبی سفر جاری رکھا تو بلا تکلف یہ کہا جا سکتا ہے کہ بحیثیت افسانہ نگار ان کا مستقبل روشن اور تابندہ ہے۔

احمد ندیم قاسمی

خلیل اللہ شبلی کی ادھوری کہانیاں پڑھ کر میں نے سوچا کہ اگر یہ کہانیاں ادھوری ہیں تو پوری کون سی کہانیاں ہوتی ہیں۔ جس حد تک شبلی نے ان کہانیوں کو ادھورا چھوڑا ہے، وہی تو کہانی کی تکمیل کی حد ہے۔ شبلی نے اپنے قارئین کے دل و دماغ کو کہانیوں کے اثرات سمیٹنے کے زیادہ سے زیادہ مواقع بہم پہنچائے ہیں بلکہ اس بظاہر ''ادھورے پن'' سے ان کے ذہنوں کو متحرک اور بعض صورتوں میں متلاطم کیا ہے، جذبے اور احساس کی جو شدت اور تجربے اور مشاہدے کی جو ہمہ گیری مجھے خلیل اللہ شبلی کے ہاں نظر آئی ہے وہ افسانے کے دور جدید میں شاذ کا درجہ رکھتی ہے۔ پھر افسانہ نگار کے طنز کی دھار اس کے قلم کی نوک سے بھی زیادہ تیز ہے اور طنز کا یہ انداز یونہی پیدا نہیں ہو جاتا اس کے لئے پورے معاشرے اور عصر رواں کے پورے تناظر کو اپنی تخلیقی صلاحیتوں کی لپیٹ میں لا کر آگے بڑھنا پڑتا ہے۔

منو بھائی

ہماری بدقسمتی ہے کہ اردو زبان کا حلقہ اثر بہت محدود ہے اور پھر ہمارے ہاں اس قدر زیادہ معاشرتی پابندیاں ہیں کہ بہت سی باتیں ادھوری رہ جاتی ہیں جبکہ خلیل اللہ شبلی میں صلاحیت ہے کہ ادھوری باتوں میں مکمل باتیں کہہ سکے۔ مجھے یقین ہے کہ اگر یہ نوجوان کسی زیادہ وسیع النظر معاشرے میں جنم لیتا تو اب تک ایک عالم کو چونکا چکا ہوتا جب کہ ہمارے معاشرے کے ٹھیکیداروں کی یہ کوشش ہوگی کہ وہ ادھورا ہی رہے تکمیل نہ پا سکے، مکمل نہ ہو سکے۔ یہ معاشرے اور اس کے محافظ سعادت حسن منٹو کے ساتھ بھی یہی کچھ کر چکے ہیں جو کہ ایک مکمل افسانہ نگار تھا مگر ادھورا ہی رہا۔ خلیل اللہ شبلی جیسے کہانی نویسوں کو یہ معاشرہ برداشت نہیں کر سکتا۔ مگر خلیل اللہ شبلی جیسے کہانی نویس ایسے ہی معاشروں میں پیدا ہوتے ہیں۔

امجد اسلام امجد

یہ کتاب نئی نسل کے ایک سوچنے والے ذہن کا منظر نامہ ہے اس میں میرے عصر اور تاریخ کا کرب بھی ہے اور نشاط بھی۔ خواب اور شکست خواب کی اس روداد کو قلم بند کر کے شبلی نے اردو ادب کی زندگی آموزی اور آمیزی میں جن رنگوں کا اضافہ کیا ہے اس میں ادب کے ایک قاری کی حیثیت سے ان کا استقبال کرتا ہوں اور شبلی کو ''جی آیاں نوں'' کہتا ہوں۔

محسن بھوپالی

مختصر افسانوں میں شبلی نے موضوعات اپنے اردگرد سے چنے ہیں۔ ذہن اور دل کی گہرائیوں کے ساتھ انہیں محسوس کیا ہے اور صفحۂ قرطاس پر منتقل کر دیا ہے اپنی بات کہنے کے لئے انہوں نے الفاظ کے چناؤ اور استعمال میں بڑی ذہانت سے کام لیا ہے۔ انہیں کم سے کم الفاظ میں بڑی بات کہنے کا ہنر آتا ہے۔ ان کی زبان کاٹ دار ہے اور ایسا طنزیہ لہجہ لئے ہوئے ہے جو تضحیک یا تذلیل کے بجائے شعور کو جھنجھوڑتی اور سوچنے والے ذہن کو متوجہ ہونے پر مجبور کرتی ہے۔

ادا جعفری

میں نے تو ان کے لہجے کی دردمندی، ان کی سوچ کی توانائی اور ان کے سچے کھرے الفاظ کے وسیلے سے اپنی نئی نسل، اپنے مستقبل سے ملاقات کی ہے۔ مجھے اس تحریر میں جو قلمکار نظر آیا وہ دیانت کے ساتھ اپنے جذبات کو الفاظ کے پیکر میں ڈھالتا جاتا ہے۔

تھری ڈائیمینشن

میرے کانوں میں ہر وقت کنستر۔ ٹین کے کنستر کھنکتے رہتے تھے۔ ٹن ٹن، ٹناٹن ٹن، بس یہی آوازیں میری سماعت کا حصہ تھیں۔ میری پکی اینٹوں کی کوٹھری کے سامنے ہی تو نل لگا ہوا تھا جہاں رات کے سوا دو بجے سے ٹین کے کنستر اور گھی کے خالی ڈبے کھنکنے لگتے تھے۔ میری نیند کبھی بھی پوری نہ ہوتی تھی یہی وجہ تھی کہ میں دن بھر اپنے دفتر میں اونگھتا رہتا تھا جس کے ذمہ شہر کی بہبود اور خوبصورتی کا ٹھیکہ ہے۔

مگر آج ٹین کے کنستر بہت زور زور سے میرے کانوں میں بج رہے تھے جبکہ میں دفتر میں اپنی میز پر دونوں کہنیاں ٹکائے ہاتھوں کے بیچ میں سر دیے بیٹھا تھا۔ یہ تو کوئی نئی بات ہرگز نہ تھی کہ دو تین دن پانی نہ آئے مگر غیر معمولی بات رفیق کا قتل ضرور تھی جو قطار میں اینٹ رکھ کر اپنے گھر کنستر لانے گیا تھا۔ مسئلہ محض پانی ہی کا تو تھا۔

میں نے سوچا کیا ہوا تھا آج صبح صبح۔ ہاں یاد آیا۔ تین دن سے سرکاری نل پانی کی جگہ ہوا اور پراسرار آوازیں نکال رہا تھا۔ اور کنستروں کی تعداد اور قطار کی لمبائی میں اضافہ ہو رہا تھا۔ اشفاق نے بتایا تھا کہ لانڈھی اور کورنگی میں تو چار دن سے پانی نہیں آیا۔ میں نے کوئی توجہ نہ دی مگر آج صبح جب رفیق نے قطار میں اینٹ رکھی اور یہ کہہ کر چلا گیا کہ یہ میری جگہ ہے تو ظفر نے وہاں اپنا کنستر رکھ دیا تھا۔ دونوں میں جھڑپ ہوگئی۔ آج سے پہلے کبھی ایسا نہ ہوا تھا۔ حالانکہ پہلے بھی تین تین دن پانی نہیں آیا تھا۔ بچے کتوں کی طرح زبانیں نکالے گلیوں گلیوں پھر رہے تھے اور گندی نالیوں میں سے اپنی گیندیں اور چپلیں نکالنے کے بہانے ہاتھ گیلے کر کے منہ تک لے جاتے تھے۔

مگر جھڑپ معمولی نہ ہوئی۔ ہر شخص کی پیاس رفیق کے ٹھنڈے ہونے پر ٹھنڈی ہوگئی تھی۔ کیا اب علاقے کے لوگ کنستر لے کر پانی لینے نہیں آئیں گے۔ یہ میں سوچ رہا تھا۔

ساری بستی پانی کو ترستی ہے۔

ٹرن ٹرن کی آواز پر میں چونک سا گیا تھا۔ مجھے جھرجھری سی آ گئی تھی۔

میں نے فون اٹھایا۔ ایڈمنسٹریٹر صاحب بات کر رہے تھے۔

احمد تم بہت کام چور ہو گئے ہو کل تم نے پانی کا ٹینکر نہیں بھیجا۔ تم تو میری اور اپنی نوکری کے پیچھے پڑ گئے ہو۔ آج ایک اور شکایت آ گئی ہے۔ تم فوراً پانی کے دو ٹینکر بھیجو۔ ایک ہی سانس میں انہوں نے کہا۔

کس علاقے سے شکایت موصول ہوئی ہے سر، میرے ذہن میں میری بستی تھی۔

شاہراہ فیصل کے پہلے چوراہے کو دو دن سے پانی نہیں ملا ہے۔

ساری گھاس سوکھ رہی ہے بے وقوف۔

سر نے ذرا تیز لہجے میں کہا۔ میں نے ریسیور کریڈل پر پٹخ دیا تھا۔

تو قف سے گھنٹی پھر بجی۔ ٹرن ٹرن ٹرن، ٹن ٹناٹن ٹن۔ میں نے دونوں ہاتھوں سے کان بند کر لئے تھے۔

مگر اب بھی ٹرن ٹرن ٹن ٹن کی آوازیں میرے کانوں میں گونج رہی تھیں مگر یہ آوازیں تو رات کے دو بجے سرکاری نل پر کھنکنے والے کنستروں کی تھیں۔

میں نے فوراً پانی کے دو ٹینکر روانہ کر دیے اپنی بستی کی جانب۔

میں نے فوراً پانی کے دو ٹینکر روانہ کر دیے۔ شاہراہ فیصل کے پہلے چوراہے پر مجھے آخر نوکری بھی تو کرنی ہے۔

دھول

برسات تھمی اور پروانوں نے ننگے اور جلتے ہوئے بلب کے گرد رقص کرنا شروع کر دیا۔ بلب کے عین نیچے ایک فریم آویزاں تھا جس پر جلی حروف میں تحریر تھا۔ ہذا من فضل ربی..... اچانک ہی ایک موٹی سی چھپکلی فریم کے پیچھے سے نمودار ہوئی اور اس نے دیوار پر چپکے ہوئے پروانوں کو ہڑپ کرنا شروع کر دیا..... میں نے اسے مارنے کے لئے جیسے ہی چپل اٹھائی..... وہ دوڑ کر واپس فریم کے پیچھے چلی گئی..... میرا ہاتھ.....

اس کی کوٹھی بہت بڑے پلاٹ پر بن رہی تھی۔ تقریباً چار ہزار گز کا پلاٹ تھا۔ تمام لوگ، کالونی کے تمام چھوٹے بڑے لوگ اس بات پر متفق تھے کہ یہ شخص جو کوٹھی بنوا رہا ہے چور ہے، اسمگلر ہے..... ڈاکو ہے..... غریبوں کا خون چوستا ہے۔ کئی لوگوں نے اس بات کا ثبوت بھی دیا کہ اس کے کاروباری شیئرز پورے ملک میں پھیلے ہوئے ہیں یا پھر غالباً آدھی دنیا میں۔ میرے ذہن میں بھی یہی بات پک رہی تھی۔

مولوی صاحب نے اس دن شیخ صاحب کی بیٹھک میں کہا تھا کہ ہر شخص محنت سے کماتا ہے۔ لہذا آدمی کو حسد نہیں کرنا چاہئے۔ بلکہ اللہ میاں کے سامنے صبر و شکر کرنا چاہئے۔ میں سوچتا تھا کہ میرا باپ بھی دن رات محنت کرتا ہے اور صبر و شکر بھی ادا کرتا ہے مگر ہم رہتے کیسے ہیں؟ ایسا کیوں ہے یہ میں نے کبھی نہ سوچا تھا۔

مگر اس بات پر مولوی صاحب بھی متفق تھے کہ اس شخص کے پاس حرام کا پیسہ ہے۔ ہم روز کھیلتے کھیلتے اس کوٹھی تک چلے جاتے تھے جہاں کام بڑی تیزی سے ہو رہا تھا۔

اُف اتنی سیمنٹ تو ہم نے کبھی پوری کالونی کی تعمیر کے لئے بھی نہ دیکھی تھی جتنی اس کی کوٹھی کی دیوار میں لگ رہی تھی۔ میں تنہا سوچتا ضرور تھا لیکن جانتا تھا کہ کرنا مجھے بھی وہی ہے جو سب چاہتے ہیں اور تو اور اب اس کوٹھی تک سڑک بھی بنے گی جس کے لئے روڑھیاں ڈالی جا چکی تھیں۔ ہماری گلیاں ابھی تک کچی تھیں۔ سب نے مل کر فیصلہ کیا کہ جس روز کوٹھی میں شیشے لگ جائیں گے اس کے دوسرے روز ہم سڑک کی تمام روڑھی اٹھا لائیں گے اپنی کالونی میں، اپنی کالونی کے لئے اور اگر کسی نے روکا تو وہی روڑھی ہوگی اور پھر شیشے، چکنا چور شیشے۔

یہ منصوبہ سن کر مجھے افسوس تو بہت ہوا تھا اس لئے کہ کوٹھی تقریباً مکمل ہو چکی تھی مگر مولوی صاحب بھی تو ہمارے ساتھ ہیں ہم یقیناً کوئی غلطی نہیں کر رہے تھے۔

اس روز سب چھوٹے بڑے جمع ہوئے اور کوٹھی کے سامنے پہنچ گئے تھے۔ ہم نے روڑھیاں اٹھائیں تو چوکیداروں نے ہمیں روکنے کی کوشش کی۔ سب نے دھمکی کے طور پر روڑھیوں کا رخ کوٹھی کے شیشے کے دروازوں اور شیشے کی کھڑکیوں کی طرف کر دیا تھا۔

مولوی صاحب نے اسی لمحے کچھ کہا اور میرے ہاتھ سے روڑھی پھسل کر ایک چھناکے کی آواز کر چکی تھی۔ کسی نے میری گردن پر ایک دھول جمائی۔ یہ مولوی صاحب تھے۔

بد بخت، گناہگار، سر اٹھا کر نہیں دیکھتا.....

کوٹھی پر راتوں رات بمعہ ترجمہ ایک تختی نصب ہو چکی تھی۔

ھذا من فضل ربی

میرا ہاتھ.....

نارتھ کا پوائنٹ

تمام ہمسفر ساتھیوں کے نام

ڈاکٹر منہاج اے قدوائی

بس کے پوائنٹ پہ ہم سب
پوائنٹ بناتے تھے اپائنٹمنٹ کے لئے
کیا پوائنٹ تھا وہ نارتھ کا پوائنٹ

انتظار رہتا تھا اس پوائنٹ پر
ہمسفر کے سوار ہونے کا
کیا پوائنٹ تھا وہ نارتھ کا پوائنٹ

بس میں سوار ہو کر
دیکھتے تھے کہ کون کون سوار ہے
کیا پوائنٹ تھا وہ نارتھ کا پوائنٹ

جیبوں میں تلاش کرتے تھے
چونی یا اٹھنی کرائے کے لئے
کیا پوائنٹ تھا وہ نارتھ کا پوائنٹ

وہ گپیں اور آنکھ مچولی
اب بھی تازہ ہیں کل کی طرح
کیا پوائنٹ تھا وہ نارتھ کا پوائنٹ

خدا سب کو ہنستا ہوا رکھے
صحتمند اور آباد رکھے
کیا پوائنٹ تھا وہ نارتھ کا پوائنٹ

طوطا پوتا

ناصر محمود

بقول کسی شاعر کے

ہم دعا لکھتے رہے وہ دغا پڑھتے رہے
اک نقطے نے محرم سے مجرم بنا دیا

یعنی اک نقطے کے اِدھر سے اُدھر ہو جانے سے بات چیت میں کتنا فرق پڑ جاتا ہے۔ اسی طرح سے ذرا سے الفاظ کی کمی بیشی سے بعض اوقات بہت دلچسپ صورتحال اور بحث و مباحثہ شروع ہو جاتا ہے۔

میرے ساتھ بھی کلینک پر ایک بزرگ خاتون سے بات چیت کرتے ہوئے ایک بہت ہی دلچسپ اور مزاحیہ صورتحال پیدا ہو گئی جب خاتون نے کچھ کہا اور میں کچھ سمجھا اور جو میں نے کہا وہ کچھ اور سمجھیں۔

اس بحث کا پس منظر کچھ یوں تھا کہ

چند سال پہلے کی بات ہے میں نے کسی ملنے جلنے والے کے گھر میں ایک پالتو طوطا دیکھا جو بہت دوستانہ رویہ رکھتا تھا اور چھوٹی موٹی باتیں کرتا تھا چنانچہ مجھے بھی شوق ہوا کہ میں ایسا ہی ایک طوطا پالوں۔ اس بارے میں معلومات جمع کیں اور پتہ چلا کہ پالتو طوطے کے لیے ایک بہت چھوٹا بچہ (طوطے کا) جس کی عمر 4، 5 دن ہو لیا جاتا ہے اور پھر اس کو پیار سے پالا جاتا ہے تو وہ بہت Friendly رہتا ہے اور چھوٹے موٹے الفاظ بولنا سیکھ جاتا ہے۔

لہذا میں نے لیاقت آباد کے اتوار بازار سے ایک طوطے کا بچہ خریدا اور بڑے خیال اور چاہ کے ساتھ اس کو پالنا شروع کیا جس میں میری فیملی نے بھی بہت دلچسپی لی۔ کلینک کے بعد زیادہ وقت میں طوطے کے ساتھ گذارتا طوطا مجھ سے کافی مانوس ہو گیا۔

اس دوران اگر مجھے پتہ چلتا کہ کسی کے پاس بھی طوطا ہے تو میں بڑی دلچسپی لے کر اس سے طوطے کی باتیں کرتا اور کچھ معلومات کا تبادلہ کرتا۔ اس طرح سے میری معلومات میں بھی اضافہ ہو جاتا اور جو معلومات میرے پاس ہوتیں وہ میں دوسروں کو بتا دیتا تھا۔ چنانچہ انہی دنوں میں مندرجہ ذیل صورتحال پیدا ہوئی۔

ایک دن کلینک پر ایک بزرگ خاتون آئیں کمر پر ہاتھ رکھتے ہوئے وہ بیٹھیں اور بتایا کہ میری کمر میں ''چُک'' پڑ گئی ہے۔

میں نے انہیں تسلی دی اور کہا کہ فکر نہ کریں ٹھیک ہو جائیں گی۔ یہ ''چُک'' کیسے پڑی؟ خاتون نے کہا کہ میں نے روٹی کا ٹکڑا جھک کر اپنے پوتے کے منہ میں ڈالا بس وہیں سے درد شروع ہو گیا۔ دلچسپ صورتحال یہاں سے شروع ہوتی ہے کیونکہ میں سمجھا کہ خاتون نے کہا کہ میں نے روٹی کا ٹکڑا جھک کر اپنے طوطے کے منہ میں ڈالا۔

میری طوطے سے متعلق تمام دلچسپی جاگ اٹھی اور میں نے مسکراتے ہوئے خاتون سے پوچھا اچھا تو آپ کے پاس طوطا ہے، بہت اچھے۔ میرے پاس بھی ایک ہے۔

اس پر خاتون خاصی حیران ہوئیں کہ میرے پاس بھی ایک ہے (خاتون سمجھیں کہ میرا بھی ایک پوتا ہے)۔ میں ان کی حیرانگی پر حیران ہوا کہ میرے پاس بھی طوطا ہے اس پر یہ خاتون حیران کیوں ہیں۔

مکالمے کچھ یوں ہوئے

خاتون: ماشاءاللہ (اور حیرانگی سے مجھے دیکھا)

راقم: کتنی عمر کا ہے؟

خاتون: تقریباً ایک سال کا

راقم: میرا تو 15 ماہ کا ہے

خاتون: (حیرانی کے ساتھ) ماشاءاللہ (میں ان کی حیرانگی پر حیران ہوا)۔

راقم: کیا اس کی گردن پر گانی (سرخ گنٹھی) آ گئی ہے؟

خاتون: نہیں (سمجھیں کہ میں نے کوئی میڈیکل Technology بولی ہے)

راقم: فکر کی بات نہیں یہ 15 ماہ کی عمر میں آتی ہے۔

خاتون: (جذباتی انداز میں) چلیں جب اللہ کی مرضی ہوگی آئے گی (میں ان کے جذباتی انداز سے حیران ہوا)۔

راقم: کچھ بولتا ہے؟

خاتون: ہاں اب چھوٹے چھوٹے الفاظ بول لیتا ہے۔

راقم: میرا تو بہت چیخ چیخ کر بولتا ہے۔ بڑے بیٹے کا نام لیتا ہے اور جب کلینک سے واپس آ کر گاڑی کا ھارن گیٹ پر بجاتا ہوں تو خوب شور کرتا ہے۔

خاتون: (حیرانگی سے) اچھا ماشاءاللہ

راقم: کیا کھلاتی ہیں؟

خاتون: اب تو ہر چیز تھوڑی تھوڑی کھا لیتا ہے۔

راقم: آپ اسے چنے کی دال بھگو کر کھلاتی ہیں؟

خاتون: (حیرانگی سے) چنے کی دال وہ بھی بھیگی ہوئی؟

راقم: جی چنے کی دال پانی میں بھگو کر کھلائیں بہت شوق سے کھاتے ہیں۔

خاتون: (ناگواری سے) کچی چنے کی دال کیسے کھا سکتا ہے؟ (میں حیران ہوا کہ طوطا پالا پر یہ نہیں پتہ کہ وہ چنے کی دال شوق سے کھاتے ہیں)۔

راقم: آپ اسے مرچ کھلائیں تو زیادہ باتیں کرے گا۔

خاتون: (ناگواری اور حیرانی سے) کون سی مرچ؟

راقم: ہری مرچ، یہ تو بہت شوق سے کھاتے ہیں۔ (میں خاتون کے طوطے پالنے کے شوق پر حیران ہوا کہ اسے تو کچھ پتہ ہی نہیں)

خاتون: غصے اور ناگواری سے میری طرف دیکھا کہ شاید میں مذاق کر رہا ہوں مگر میں بہت سنجیدہ تھا۔

راقم: آپ کو تو کچھ پتہ نہیں چلیں میں بتاتا ہوں آپ روزانہ رات کمرہ بند کر کے اندھیرے میں اس سے باتیں کیا کریں۔

خاتون: وہ کیوں؟

راقم: اس طرح اُس کا دھیان باتوں پر ہوتا ہے اور وہ الفاظ سنتے ہیں اور بولنے کی کوشش کرتے ہیں۔

خاتون: (حیرانگی کے ساتھ) چلیں کوشش کروں گی۔

راقم: یاد رکھیں آپ جتنا بھی پیار کریں یہ بڑے ہوتے ہی موقع ملتے ہی اُڑنچھو ہو جاتے ہیں۔

خاتون: (انتہائی جذباتی انداز میں) ہم تو اپنا فرض پورا کرتے ہیں آگے اللہ کی مرضی۔ (میں خاتون کے جذباتی انداز پر حیران)

راقم: نہیں نہیں ایسا نہیں ہونا چاہئے اس سے بچنے کا ایک طریقہ ہے۔

خاتون: (حیرانگی سے) وہ کیسے؟

راقم: وہ ایسے کہ آپ نے اتنے پیار سے پالا ہے تو اسے قابو میں رکھنے کا طریقہ یہ ہے کہ ہر 2 ماہ بعد اس کے ''پَر'' کاٹ دینے چاہئیں۔

خاتون: (حیرانگی اور پریشانی سے) کیا کاٹ دینے چاہئیں؟

راقم: (مسکراتے ہوئے) ''پَر''

خاتون: کس کے؟

راقم: طوطے کے اور کس کے۔

خاتون: کون سے طوطے کے؟

راقم: جو آپ کے پاس ہے۔

خاتون: میرے پاس تو کوئی طوطا نہیں ہے۔

راقم: (حیرانگی اور پریشانی سے) تو پھر آپ کس کے بارے میں گفتگو کر رہی ہیں؟

خاتون: میں تو اپنے ''پوتے'' کے بارے میں بات کر رہی تھی۔

راقم: (قہقہہ لگاتے ہوئے) اور میں تو اپنے ''طوطے'' کے بارے میں بات کر رہا تھا۔

دونوں قہقہہ لگا کر ہنسنے لگے۔

نجات

سروش ثریا شمیم صدیقی

میں اپنے غم سے نکل آئی — امید کی کہکشاں نظر آئی
میں اپنے غم سے نکل آئی — طویل شب کے بعد صبح آئی
یہ ہے شان کبریائی — جیسے انترے کے بعد استھائی
تیرے کلام کی مسیحائی — جیسے اقبال کی نظم گائی
بنجر زمین پے رحمت برسائی — غالب سے نوائے سروش آئی
پھر خزاں کو بہار پہنائی — بہار فیض چپکے سے آئی
روح کے ناسور سے نجات پائی — میں اپنے غم سے نکل آئی
کُل کائنات سے دل کی آواز آئی — میں اپنے غم سے نکل آئی.....

سنہرا سال

امتیاز خالد

خواتین اور ایک حضرت کے پرزور اصرار پر آخر کار میں بھی کچھ لکھنے کا سوچ ہی بیٹھی۔ حالانکہ اب تک آپ آصف اسلم کی معیاری اور خلیل اللہ شبلی کی چبھتی ہوئی سچائیوں سے بھرپور تحریروں سے لطف اندوز ہو چکے ہونگے۔ اس کے بعد اردو کے قدردانوں کو کچھ اور پڑھنے کی خواہش کم ہی ہوگی مگر پھر بھی میں نے جسارت کر ہی لی۔ انداز بیاں کی خامیوں کو ایک نو وارد کی پہلی کاوش سمجھ کر درگزر کر دیجئے گا۔ یوں تو صبح و شام لکھنا ہی میرا کام ہے مگر لگ بھگ بیس برس سے الٹرا ساؤنڈ کی فیلڈ سے وابستہ ہونے کے باعث لکھنے کا انداز واضح طور پر پروفیشنل ہو چکا ہے۔

کہنے کو تو یہ سلور جوبلی سال ہے مگر میں اسے سنہرا سال قرار دوں گی۔ سنہرا اس لئے نہیں کہ اس سال میں نے اپنی پچاسویں سالگرہ منائی بلکہ میرے لئے کئی وجوہات کی بنا پر یہ ایک یادگار سال رہے گا۔ اس سال میں نے اپنے آپ کو پھر سے ڈھونڈا ہے۔ میں تو گذشتہ پچیس سالوں میں اس قدر مصروف رہی کہ اتنے سارے سالوں کے بیت جانے کا احساس ہی نہ ہوا، ہر نیا سال جب شروع ہوتا ہے تو اکثر لوگ سال کی قرارداد بناتے ہیں کہ اس مرتبہ فلاں فلاں کام کریں گے اور کس طرح سے اپنے کاروبار اور زندگی کو آگے بڑھائیں گے۔ میں نے بھی کچھ اسی طرح کے منصوبے ترتیب دئے تھے یہ جانے بغیر کہ کاتب تقدیر نے میرے لئے کیا لکھ رکھا ہے۔

فروری کی ایک چمکیلی صبح کو مجھے ایک فون موصول ہوا کہ میں کوثر بات کر رہی ہوں۔ یہاں یہ بتادوں کہ کوثر کو میں بہت عرصہ سے بس رسمی سا جانتی تھی، یہی کہ میری کلاس فیلو ہے گرچہ ہم دونوں کی بیٹیاں پہلی جماعت سے آج تک ساتھ پڑھتی رہی ہیں اور بہترین سہیلیاں ہیں۔ اس کے علاوہ ۲۵ دسمبر کو شمویئل کے ہاں جب سالانہ پروگرام ہوتا ہے وہاں پر دو ایک مرتبہ کوثر سے ملاقات ہو چکی تھی۔ فون پر مجھے یہ پیغام ملا کہ آئندہ اتوار کو ہم چند کلاس فیلوز اکٹھا ہو رہے ہیں تاکہ اپنی گریجویشن کے پچیس سال مکمل ہونے کی خوشی منانے کا لائحہ عمل تیار کیا جائے۔ اس فون کو سنتے ہی میرے اندر کی امتیاز کھوکھر جاگ اٹھی جس کو نجانے میں نے کب سے سُلا دیا تھا۔ کالج لائف کی بہت سی باتیں یکا یک یاد آنے لگیں، کئی چہرے اور آوازیں صدائیں دینے لگیں۔ جذباتی ہو کر میں نے مصمم ارادہ کر لیا کہ میٹنگ میں ضرور جاؤں گی۔ مقررہ وقت پر جب وہاں پہنچی تو بارہ یا تیرہ ساتھیوں کو موجود پا کر بیحد خوشی ہوئی۔ چونکہ اتنے عرصے بعد مل رہے تھے تو ابتدا کچھ رسمی گفتگو ہوئی۔ کچھ سلور جوبلی کا ذکر ہوا، اس سے متعلق چند کمیٹیاں تشکیل پائیں جن میں میرا نام زبردستی سووینیئر کمیٹی میں ڈال دیا گیا۔ اس وقت میں نے یہ سوچ کر قبول کر لیا کہ کام کس کو کرنا ہے میگزین میں نام ہی آجائے گا۔

پھر رفتہ رفتہ میٹنگز کا سلسلہ چل نکلا، ہر ماہ کچھ نئے مگر پرانے چہرے قافلے میں شامل ہوتے گئے۔ اسی دوران دھیرے دھیرے یہ احساس مٹنے لگا کہ درمیان میں کہیں پچیس برس بیت چکے ہیں۔ نئے سرے سے پرانی دوستیوں کو استوار کرنے کا موقع ملا، کبھی بچگانہ چھیڑ چھاڑ تو کبھی انتہائی سنجیدہ گفتگو چلتی رہی۔ سب ہی پُرجوش اور پُرعزم تھے کہ ہمیں اپنی مادرِ علمی کے لئے کچھ کر کے دکھانا ہے۔ آج کل یہ رواج ہو گیا ہے کہ ہر سلور جوبلی منانے والا گروپ ڈاؤ میڈیکل کالج یا سول ہسپتال کی ترقی میں اپنا کردار ادا کرنے کے لئے کچھ کام کرتا ہے۔ آغاز میں ہم نے تھیلیسیمیا ڈے کیئر سینٹر قائم کرنے کی جدوجہد کے تمام مراحل طے کئے مگر رضائے خداوندی شامل نہ ہونے کی وجہ سے پروگرام تبدیل کرنا پڑا۔ اب ہمارا پروجیکٹ گائنی آپریشن تھیٹر کی ازسرنو تعمیر ہے۔ اس سلسلے میں ابتدائی کام ہو چکا ہے اور سلور جوبلی پر ہماری کلاس اس کام کے آغاز کا باقاعدہ اعلان کرے گی۔ اس بھاگ دوڑ میں پتہ ہی نہ چلا کہ کب فروری سے دسمبر آ گیا۔ ہر میٹنگ میں نئے آنے والے کا پُرتپاک استقبال کیا جاتا تھا۔ میٹنگ کا آنکھوں دیکھا حال چند گھنٹوں میں یاھو (Yahoo) گروپ پر آجاتا تھا اور اس کا سہرا ہمیشہ مصدق کے سر ہوتا تھا۔ مصدق جنہیں سب ہنری گرے کے نام سے پہچانتے ہیں، انہیں میں کالج میں صرف ان کی عرفیت کی وجہ سے جانتی تھی مگر ان چند مہینوں میں میں نے مصدق کو ایک بہترین دوست اور سادہ لوح انسان پایا۔

یہ تو سب جانتے ہی ہیں کہ اسی دوران انٹرنیٹ پر یاھو گروپ کے ذریعے ہماری ملاقات اپنے پردیسی ساتھیوں سے بھی ہوتی رہتی تھی یاھو گروپ

بنانے میں اقبال کا نمایاں کردار رہا ہے۔ مجھے ان کی گروپ میٹ ہونے پر فخر ہے۔ تبادلہ خیالات کبھی گرما گرم بحث کا رخ اختیار کر لیتے تھے تو کبھی دلچسپ نوک جھونک میں سب مشغول ہو جاتے تھے۔ اپنی زندگی میں ان ساری تبدیلیوں کو میں نے واضح طور پر جگہ دی، اب میں رات کو کلینک سے آنے کے بعد ٹی وی پر ٹاک شوز(Talk Shows) نہیں دیکھتی ہوں بلکہ یہ جستجو ہوتی ہے کہ جلد از جلد نیٹ پر جا کر دیکھوں کہ کتنی ای میلز منتظر ہیں یا پھر میں ان کی منتظر ہوں۔ میرے شوہر میری اس تبدیلی سے خوش ہیں کیونکہ انہیں کبھی بھی میرا ٹاک شوز دیکھنا نہ بھاتا تھا، وہ کہتے ہیں کہ انگریزی فلمیں یا معلوماتی پروگرام دیکھا کرو باقی سب بیکار باتیں ہوتی ہیں۔ اب آپ سمجھ چکے ہوں گے کہ مجھے لکھنے پر مجبور کرنے والے حضرت کوئی اور نہیں بلکہ خالد ہیں جنہوں نے سلور جوبلی کی تیاریوں کے دوران میری بہت مدد اور حوصلہ افزائی کی ہے۔

جیسے جیسے دسمبر قریب آتا گیا میٹنگز بھی جلدی جلدی ہونے لگیں اور ہم سب نے کام میں بھی تیزی دکھانی شروع کر دی۔ سب سے محنت طلب کام تمام ساتھی ڈاکٹرز کی لسٹ بنانا تھا جو کہ ظاہر ہے اب پوری دنیا میں پھیل چکے ہیں اور ڈاؤ ۸۴ کا نام روشن کر رہے ہیں۔ علی امام نے اپنی ٹیم کے ساتھ اس کام کا بیڑا اٹھایا۔ علی، کوثر، مشتاق اور شموئیل نے بہت پسینہ بہایا اور پھر آخر میں میں نے بھی ان کا ساتھ دیا۔ امریکہ سے زینت اور لندن سے وسیم نے اس میں بے حد تعاون کیا اور لاہور کی سیما بھی کسی سے پیچھے نہیں رہی۔ اس کام کو کرتے ہوئے بہت خوشی ہوتی تھی، جب کسی نئے ساتھی کی خبر ملتی تو یوں لگتا کہ جیسے crossword پزل کا ایک مرحلہ طے کر لیا۔ خواہش تو یہ تھی کہ پورا پزل حل ہو جائے مگر اب بھی تقریباً ۱۰۸ ساتھی گمشدہ ہیں۔ اسی دوران میں نے اپنے گروپ فیلوز کو بھی دریافت کر لیا اب پروین، منیر الدین، عارف، جاوید اور رفیق بھی اس قافلے میں شامل ہو چکے تھے۔ جب کسی ایسے ساتھی کی خبر ملتی جو اب ہم میں نہیں ہیں تو بہت دکھ ہوتا تھا۔ مجھے بختیار بزمی آج بھی یاد ہے میں نے ان کے ساتھ میڈیکل ٹو میں ہاؤس جاب کیا تھا، بے حد خوش مزاج، ہمدرد اور شریف النفس انسان تھے۔ اللہ تعالیٰ انہیں اور دیگر تمام بچھڑے ہوئے ساتھیوں کو اپنے جوار رحمت میں جگہ دے۔ آمین۔

اس کے بعد سوویئر کا مرحلہ آیا جو پہلے سست روی سے چل رہا تھا اب اس سلسلے میں بھی بھاگ دوڑ شروع ہوئی۔ انٹرنیٹ کے ذریعے بیرون ملک ساتھیوں سے بھی مواد لکھنے کی گذارش کی گئی جسے کھلے دل سے قبول کیا گیا اور بیش بہا مضامین اور نظمیں موصول ہوئیں۔ میں تو قائل ہو گئی کہ ہماری کلاس کے لوگ کتنی انرجی سے بھرپور ہیں اور سب میں کلاس اسپرٹ (Spirit) بدرجہ اتم موجود ہے۔ امداد اور یاسمین کی بیرونی امداد کو کیسے بھول سکتی ہوں، شاہد رشید کی مقناطیسیت، منہاج کی حب الوطنی، آصف اسلم کی پختگی، کامران کا کرکٹ بیان، شبلی کے قلم کا نشتر، مسرت کا نسلوں کا سفر، روحی کا درد دل کا بیاں سب آپ کے زیر نظر ہیں۔ اس میگزین کی تیاری میں ہم سب نے بہت جان لڑائی ہے، تصویروں کو حاصل کرنے اور منتخب کرنے کا مرحلہ بھی بہت کٹھن تھا۔ ہماری تو یہ پہلی کوشش ہے، خامیاں یقیناً ہونگی مگر اس کی تیاری کے دوران ہم نے آپس میں بہت محبتیں حاصل کی ہیں۔ سروش کی فنکارانہ صلاحیتوں کی تو میں زبردست گرویدہ ہو چکی ہوں، اس قدر باریکی میں ہر چیز کو پرکھتی ہے کہ حیرت ہوتی ہے۔ دل کی صاف مگر کچھ کچھ شریر بھی ہے۔ کوثر کی طرح میں نے کسی کو مخلص اور کھرا نہیں پایا، ہر ایک کے لئے محبت بھرا انداز اور وہ بھی ہمیشہ۔ مسرت، روحی، ارم اور سلیم بھی اپنے کام میں ہر دم مستعد۔ میری جانب سے اس کام میں اتنے جوش و خروش کا مظاہرہ کیا گیا تو لوگ یہاں تک پوچھنے لگے کہ امتیاز کیا آج کل آپ کی پریکٹس اچھی نہیں چل رہی ہے۔ پریکٹس تو اللہ کا شکر ہے کہ اچھی ہی ہے مگر جذبہ ۸۴ جو کوٹ کوٹ کر بلکہ گرائنڈ کر کر کے بھرا ہوا ہے اس کا کیا کیجئے۔

اب میں نے پرانے ساتھیوں کے ساتھ نئی دوستی قائم کر لی تھی۔ ان میں قابل ذکر علی امام ہیں جنہیں ہم پرنس کہتے ہیں، بہت زندہ دل اور صاحب ذوق ہیں۔ شموئیل جو بے تحاشہ کام کرتے ہیں مگر تھکتے نہیں ہیں۔ اعجاز احمد جو ہمیشہ مختصر اور اہم باتیں کرتے ہیں اور انہوں نے ان گنت مرتبہ ہمیں اپنا مہمان بنایا اور تواضع کی۔ آصف اسلم جو کم کم بولتے تھے اور کم کم ہنستے تھے اب ہنستے بھی ہیں اور شرارت بھی کرتے ہیں اور معلوم یہ ہوا کہ وہ بھی ہماری ہی طرح کے چوراسین (84ian) ہیں۔ میگزین کیلئے ان سے مضمون حاصل کرنے کیلئے ہمیں جوئے شیر لانا پڑا کہوں تو بیجا نہ ہوگا۔ آخر کار بھائی گیری کا استعمال کرنا پڑا اور جناب نے گھبرا کر فوراً ہتھیار ڈال دیئے۔ علی، سروش، میں نے اور خود آصف نے اس کو بہت انجوائے کیا کبھی فرصت ہوئی تو سنائیں گے۔ اور تو اور ہماری کلاس کے ایک اور قد آور ساتھی حسنات بھی ہمارے ساتھ ہوتے تو ہم جیسے ہی ہو جاتے ہیں۔ شہلا کی انتھک محنت بھی تعریف کے قابل ہے، یہ لڑکی جو سوچتی ہے وہ کر لیتی ہے۔ حسینہ بولتی کم ہے اور کام زیادہ کرتی ہے، ہماری ہر کمیٹی میں آپ کو اس کا نام ضرور ملے گا۔

سلیقہ شعار فرزانہ کے لذیذ شامی کباب اور براؤنیز ہمیشہ میٹنگز میں شامل ہونے پر مجبور کرتے رہے۔ یاسمین قاضی نے تو ہماری صدا پر بیجنگ سے لبیک کہا۔

یاھو گروپ پر میں قادر کی شرارتوں کو ہمیشہ یاد رکھوں گی، قادر کالج کے دنوں میں بھی میرے اچھے دوستوں میں شمار ہوتے تھے اور انہیں دوبارہ دریافت کر کے بہت خوشی ہوئی۔ کرنل انور کی شوخیاں، امداد کی برجستگی، طاہر کا یوٹرن (U-turn)، اقبال کے اعداد و شمار، عاصم کا دھیما پن، فیض کی سادگی، افتی کی سنجیدگی، زینت کا دور ہو کر بھی پاس ہونے کا احساس، گلزار کا چنچل پن، اسلم کا اکثر غیر اعلانیہ غائب ہو جانا، سرور کی آواز کا جادو، جمیل کی سنجیدگی، سروش کی سرمستیاں، کوثر کے منٹس جن میں روز بروز نکھار آتا جا رہا ہے۔ یہ سب علامات ہیں اس امر کی کہ ابھی بھی ہم خوبصورت ہیں۔

اس سلور جوبلی نے مجھے تازہ دم ہونے کا موقع دیا ہے اور ہم پرانے ساتھیوں نے عہد کیا ہے کہ ہم اپنی نئی دوستی کو برقرار رکھیں گے اور اگر زندہ رہے تو اپنی گولڈن جوبلی اس سے زیادہ دھوم دھام سے منائیں گے۔

ڈاؤ ترانہ

بہ تعاون قادر شیخ

یہ ڈاؤ ہمارا ہے — ہمیں اس نے سنوارا ہے
ہمیں اس نے سنوارا ہے — اسے ہم ہی سنواریں گے
یہ ڈاؤ ہمارا ہے — اسے ہم ہی نکھاریں گے
ہمیں اس نے سنوارا ہے — اس ڈاؤ کی خاطر ہم
اس کا اک اک لمحہ — کچھ کر کے دکھائیں گے
ہمیں آج بھی پیارا ہے — یہ ڈاؤ۔ یہ ڈاؤ ہمارا ہے
یہ ڈاؤ۔ یہ ڈاؤ۔ یہ ڈاؤ ہمارا ہے — ہمیں اس نے سنوارا ہے

ہم نے تم کو چاہا تھا تم نے ہمیں ٹھکرایا ہے
دل آیا بھی تو آخر کیسے پتھر دل پر آیا ہے

صحرا کہ اس حصے میں گرچہ دھوپ تو اتنی کڑی نہ تھی
لکھا ہی تقدیر میں اپنی درخت نہ کوئی سایہ ہے

میرا سب کچھ چھین کے بھی وہ مجھ کو ہی مجرم ٹھہرائے
اُس پتھر کی مورت کو ہم نے جب آئینہ دکھلایا ہے

واسطے مرے خنجر اور نشتر ہے اس کی جھولی میں
میں سمجھا تھا کہ مرہم ہے یا شاید کوئی پھایا ہے

قاضی محسن

دشت تنہائی میں، اے جان جہاں، لرزاں ہیں
تیری آواز کے سائے، تیرے ہونٹوں کے سراب
دشت تنہائی میں، دوری کے خس و خاک تلے
کھل رہے ہیں تیرے پہلو کے سمن اور گلاب

قاضی تنویر عُزیر کی یاد میں

شاہد رشید

وہ حسین یادیں تری ہم نہ بھولیں گے کبھی
یاد کرتے ہیں تجھے یاس و حسرت سے سبھی

پُرکشش باتیں تری خوشنما چہرہ ترا
ہم میں تھا تیرا وجود پھول میں خوشبو کی طرح

علم و دانش میں کیا تو نے وہ ممتاز مقام
تیرے گرویدا ہوئے مشرق و مغرب میں تمام

زندگی وقف تری خدمت انساں میں رہی
یہ صفت تھی، جو تیرے نام کی تمثیل بنی

نغمہ سرا سبھی ہیں ترے دوست و اغیار
تری محنت، تری الفت، تری قیادت کے

ہم دُعاگو ہیں تجھے جنت فردوس ملے
اور اللہ بلندتر ترے درجات کرے۔ آمین

بختیار بزمی کی یاد میں

انور علی خان

تقریباً 450 نفوس پر مشتمل یہ خاندان جب اس سال دسمبر میں ٹھیک اسی جگہ جمع ہوگا جہاں سے 32 سال پہلے انہوں نے اپنے اس ''آج'' کا سفر شروع کیا تھا تو ہزار خوشیوں کے باوجود ہم اس بھیڑ میں کچھ دوستوں کے چہرے تلاش نہیں کر پائیں گے، صرف ان کی یادیں ہمارے ساتھ ہوں گی۔

ان ہی یادوں میں سے ایک یاد بختیار بزمی کی بھی ہے۔

بختیار بزمی.....اس شخص میں نہ جانے کیا مقناطیسیت تھی کہ اس سے مل کر اس کی عزت کرنے کا دل چاہتا تھا۔ وہ ہمارے پورے گروپ کے لئے بی۔ بزمی تھے، یا پھر بزمی بھائی۔

دھیمے دھیمے لہجے میں بہت صاف اور سلیس اردو بولنا، چہرے پہ ہمیشہ ایک مسکان، غیر ضروری باتوں سے پرہیز، ہمیشہ دوسروں کی بھلائی سوچنا وغیرہ وغیرہ۔ مختصراً بزمی بھائی شرافت کا ایک مکمل نمونہ تھے۔

Diversity اس لفظ کا اصل مطلب جاننے کے لئے گروپ F 2 کا راؤنڈ ہی کافی ہے۔ پاکستان میں بولی جانے والی ہر زبان، ہر فرقہ، ہر سیاسی پارٹی کا نمائندہ، لمبا اور چھوٹا، دبلا یا موٹا، لمبے گھنے بال یا گنجا سر، ویری ہارڈ ورکنگ بمقابل ہارڈ ورکنگ، سوبر سے سوبر اور چھچھورے سے چھچھورا، یہاں ہر نسل پائی جاتی ہے، مگر بزمی بھائی had an amazing comfort level in his personality ہر شخص ان کے ساتھ اور وہ ہر شخص کے ساتھ comfortable رہتے تھے۔

وہ غالباً ہمارے گروپ کے مکھیا بھی تھے۔ ہر کوئی اپنی مظلومیت کی داستان، اپنی پڑھائی کا رونا ان ہی کے سامنے روتا اور وہ سب کو دلاسہ بھی دیتے۔ On numerous occasions, ہم جیسے ہارڈ ورکنگ کو وہ اپنے گھر بلا کر زبردستی پڑھاتے.....اور کھانا بھی کھلاتے۔

بختیار بزمی نے شاید کبھی کوئی ٹلا بھی نہیں مارا، ہمیشہ کلاس میں موجود۔ ان کا کام تھا ہماری حاضری لگا دینا (صرف اس لئے کہ ہم امتحان میں عزت سے بیٹھ سکیں) کاش ایسا ہوتا کہ دسمبر کی ری۔ یونین میں بھی بزمی بھائی فنکشن میں آنے والے پہلے شخص ہوتے.....کاش.....

دعا ہے کہ اللہ رب العزت انہیں جنت میں اعلیٰ مقام عطا فرمائے (آمین)

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نے کلیۂ طب کے تحت ایم۔بی۔بی۔ایس کی سند کے لیے اس جامعہ کے منظورہ نصاب کی تکمیل کرلی ہے اور مطلوبہ امتحان سالانہ/ضمنی ۱۹۸۱ منعقدہ ۱۹۸۳ میں کامیابی حاصل کرلی ہے،

It is hereby certified that he/she has been duly admitted to the degree of **Bachelor of Medicine and Bachelor of Surgery** *in this University.*

لہذا تصدیق کی جاتی ہے کہ انہیں اس جامعہ میں ایم۔بی۔بی۔ایس کے درجہ پر فائز کیا گیا۔

Jamal Jalibi
Vice - Chancellor

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شیخ الجامعہ

Registrar

Dated Karachi, the 25TH JANUARY 1984

کراچی، بتاریخ ۲۵ جنوری ۱۹۸۴

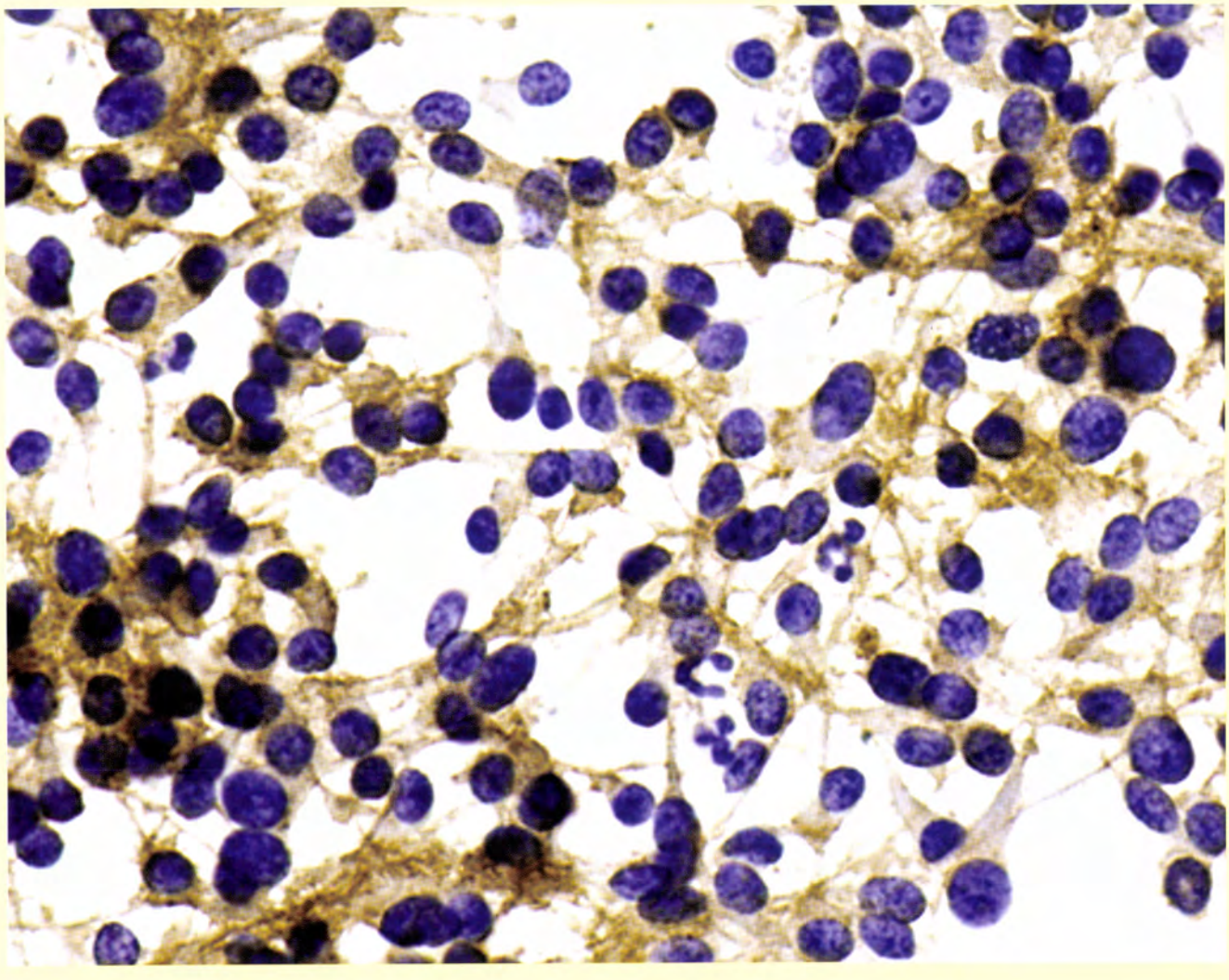
Note:- *Detailed transcripts of examination results have been issued separately.*

امتحان کے مضامین اور حاصل کردہ نشانات کی تفصیلات علیحدہ جاری کی گئی ہیں۔


9TH. CONVOCATION 84

Diagnostic Cytopathology

VOLUME 38, NUMBER 7, JULY 2010



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Diagnostic Cytopathology

VOLUME 38, NUMBER 7, 2010

continued on next page

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continued

Articles Accepted for Publication in Future Issues

Suzanne M. Selvaggi	Cytologic Detection of Concurrent Infectious Agents in Urines from Renal Transplant Patients
Charles V. Biscotti and Nancy Ray	Papanicolaou Tests Associated With Cervical Mucosal Endometriosis: An Analysis of Cellular Features and Comparison to Endocervical Adenocarcinoma In Situ
Janis M. Taube, Betty Kamira, Mahnaz Motevalli, Clemensia Nakabiito, Robert Lukande, Deidra P. Kelly, Yener S. Erozan, Patti E. Gravitt, Megan E. Buresh, Francis Mmiro, Danstan Bagenda, Laura A. Guay, and J. Brooks Jackson	Human Papillomavirus Prevalence and Cytopathology Correlation in Young Ugandan Women Using a Low-Cost Liquid-Based Pap Preparation
Trynda N. Oberg, Benjamin R. Kipp, Julie A. Vrana, Mary K. Bartholet, Colleen J. Fales, Rocio Garcia, Ashley N. McDonald, Brittany L. Rosas, Michael R. Henry, and Amy C. Clayton	Comparison of $p16^{INK4a}$ and ProEx™ C Immunostaining on Cervical ThinPrep® Cytology and Biopsy Specimens
Min-Zhu Huang, Hong-Bo Li, Xin-Min Nie, Xin-Yin Wu, and Xiao-Man Jiang	An Analysis on the Combination Expression of HPV L1 Capsid Protein and $p16^{INK4a}$ in Cervical Lesions

Cover legend: Carotid body paraganglioma. Fine needle aspiration cytology; CD56 immunohistochemistry on UFP stained smear. See accompanying article by Schreiner et al., pages 507–508, in this issue.

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EDITORIAL

Section Editor: Ann T. Moriarty, M.D.

The Equivocal Pap Test:
Its Past, Present, and Future

Suzanne M. Selvaggi, M.D.*

Literally hundreds of articles have been published on the Bethesda System Category "Atypical Squamous Cells" (ASC), in particular, those of "Undetermined Significance" (ASC-US). Numerous text books, monographs, atlases, journal articles, and societal websites describe and depict their cytomorphologic features and characteristics. The timely review by Howell and colleagues provides an accurate history of the evolution of ASC terminology from its published description by Papanicolaou in 1928[1] and his Atlas of Exfoliative Cytology in 1943[2] to modern times. As noted, not only has the terminology to report ASC changed over time but also follow-up and management strategies have changed as well. Systematic revisions to the category stemmed predominantly from the application of new tests/technologies to the study of cervicovaginal disease, and ease of implementation was the outcome of organized workshops[3–5] with a wide representation of health care providers. Yet from the first Bethesda workshop in 1988 to the present time, the term ASC continues to cause diagnostic consternation for practicing pathologists and management issues for health care providers. Despite our best efforts, ASC still remains the most common abnormality reported by cervical cytology.[6] A recent study in 2003[7] by the College of American Pathologists (CAP) Interlaboratory Comparison Program in Cervicovaginal Cytology (Pap) reported a median ASC rate of 4.0% as compared with a rate of 4.5% in 1996[8] despite wide-spread acceptance of Bethesda 2001 terminology, increased utilization of liquid-based preparations, HPV testing, and in many laboratories, automated screening. If the category of ASC is a cause of such consternation for the profession, why do we continue to use it?

Continued use of the term ASC is as uncertain as the certainty it provides. Pitman et al.[9] conducted a study to investigate the impact of reducing or eliminating the ASC-US category on the sensitivity and predictive values for detecting squamous intraepithelial lesions (SILs). The results showed a marked reduction in the sensitivity of the Pap smear for both SIL and HSIL ($P < 0.002$ for all cases) and was not found to be associated with a significant increase in the positive predictive value of an abnormal diagnosis for either SIL or HSIL ($P > 0.46$ for all cases). They concluded that reducing or eliminating the diagnosis of ASC-US lead to a statistically significant decrease in the sensitivity of the Pap smear. In addition, there was not a significant increase in the positive predictive value, rather elimination of the category would lead to a decrease in the overall accuracy of the test; findings born out in the literature. However, the forces that continue to drive the profession go well beyond the issue of sensitivity and specificity, not but least, the medical legal climate of the times. To the diagnostician, there is some comfort in rendering an interpretation of ASC-US in equivocal cases, knowing that the current management guidelines include close follow-up with repeat Pap tests, HPV testing, or colposcopy and biopsy.

As our understanding of cervical disease evolved over time, the focus of cervical cancer screening was on the detection of HSILs, particularly CIN III and its association with potential progression to invasive carcinoma. Past experience showed us that CIN III was discovered in a small percentage of women with ASC-US on Pap testing. In an effort to detect the subpopulation of women more likely to harbor CIN II, III lesions and to address concerns on overuse of ASC-US, the ASC-US working group at the 2001 Bethesda conference introduced the new term ASC—Cannot exclude a high-grade squamous intraepithelial lesion (ASC-H); dividing the ASC category

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into two groups: those of undetermined significance (ASC-US) and ASC-H. We are yet to see the full impact of the implementation of the ASC-H category on the reduction in the use of ASC-US. Although colposcopy is the recommended management for ASC-H,[10] recent studies[11,12] suggest triaging these cases for HPV analysis to further define those patients with true high-grade cervical SILs. As referenced by Howell and colleagues, a new equivocal term "LSIL cannot rule out HSIL" (LISL-H) has been proposed to better stratify those women who are at risk for CIN II+ lesions; not to mention the effect HPV-DNA testing as the primary screening method for cervical disease will have on the current terminology.

Howell and colleagues conclude that "As the long history of cervical neoplasia screening and prevention illustrates, equiocal findings and interpreter uncertainty are an inevitable part of the science of medicine, and it is unlikely that they will ever cease to exist." In the face of the history of the Pap test and the numerous educational, diagnostic, and technical advances along the way, I think that most of us would agree. The final chapter of the story may well lie in the hands of the HPV vaccine, only time will tell.

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What's in a Name? Evidence That Papanicolaou, Not Babes, Deserves Credit for the Pap Test

A. Diamantis, M.D., Ph.D.,[1] E. Magiorkinis, B.Sc., M.D., Ph.D.,[1*] and G. Androutsos, M.D., Ph.D.[2]

The purpose of our study is to elaborate on the ongoing controversy regarding the origination of the Pap test between the supporters of George Papanicolaou and Aurel Babes. We studied the original articles published by Aurel Babes and George Papanicolaou and conducted a comparative evaluation of both methods. Babes' method is radically different from Papanicolaou's method. Differences included the sampling method, the fixation and staining technique, and the interpretation of the results regarding cases of cervical cancer. We conclude that the establishment of the technique in clinical practice and the idea of its application as preventive control of cervical cancer belong solely to George Papanicolaou. Diagn. Cytopathol. 2010; 38:473–476. © 2009 Wiley-Liss, Inc.

Key Words: Pap test; Papanicolaou; Babes; cervical cancer

Inaugurating a new era of cytology, Georgios Papanicolaou first announced his method of examining vaginal smears, now commonly called the "Pap test," at the 1928 Battle Creek conference in Michigan.[1] However, several authors had published studies on cellular smears—even on vaginal smears—before Papanicolaou.[2] In 1927, Constantin Daniel, a professor of Gynaecology and Obstretics at Bucharest University, adopted a method of examination that closely resembled vaginal smears. Daniel used a method devised by his colleague Aurel Babes to diagnose cervical cancer. Babes' method involved examining cellular material obtained from the uterus cervix on slides that were air dried and stained with Giemsa stain. Babes announced his findings in the Bucharest Gynecological Association in 1927.[3] One year later, Babes published his method in a article, co-authored with Daniel, in the prestigious French Medical journal "Presse Medicale."[4] Later, the use of the word Pap test or "Pap smear" to describe the routine test for cervical cancer troubled many observers, particularly Romanian doctors who insisted that Babes deserved the credit. Indeed, some scholars have suggested that the method of the cytological study—diagnosis of in situ carcinoma of the uterus cervix—should be attributed to Babes and not to Papanicolaou.[1,5]

The purpose of our study is to elaborate on the ongoing controversy regarding the origination of the Pap test and whether credit for the idea belongs to Georgios Papanicolaou, to the Romanian pathologist Aurel Babes, or shared between the two. Some authors contend that both methods are identical and the method should be attributed to Babes[1,5] whereas others avoid taking any position in favor of either Babes or Papanicolaou.[6] Although honoring the well-respected work and contribution of Aurel Babes in the field of cytopathology, we firmly believe that Georgios Papanicolaou invented an original, innovative concept. Furthermore, the method described by Babes and Daniel in their article differs totally from than that of Papanicolaou's and, more importantly, the contemporary Pap test. The modern-day Pap test, which has undoubtedly saved millions of women, resembles Papanicolaou's method far more than the Babes technique. The procedure described in the Babes' article has nothing to do with what we refer today as a Pap test. Babes based the sampling, preparation, staining, and examination of cervical samples on a totally different concept—mainly pathologically rather than cytologically oriented—which could never be applied in a mass, preventive-control program without dramatic modifications.

A careful study of Babes and Daniel's article reveals, indirectly, that Babes did not examine isolated cells at all. Instead he examined tissue blocks collected from the

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surface of the alteration with the use of platin loop (i.e., a scraping from cervical surface). The study was not based on fluids at all but rather the surface tissue of certain areas in the cervix of the uterus. Babes and Daniel did not clarify whether they disolved tissue blocks (according to the first techniques of applied diagnostic cytology/histopathology) or whether they used tissue prints. Their method differs completely from Papanicolaou's technique that is used in modern Pap smears (i.e., coating of spontaneously exfoliated cells obtained by violent extraction from the diseased tissue). Papanicolaou specifically used a glass pipette 8 inches long and 3/8 of an inch in diameter,[7] and, therefore, examines vaginal fluid cytologically. It seems that Babes, the head of the department of pathology, clearly thought as a pathologist, whereas Daniel, a clinician, inspired him with the idea of a complementary or alternative cytological study. The difference of the method of sample collection has direct implications in the sensitivity of the diagnostic process. Samples collected by Babes and Daniel's method cannot be tested as robustly as the Papanicolaou's method.

In addition, there are important differences in the fixation and staining techniques. Babes used a stain common to pathologists, an air-dried fixation, and Giemsa staining used mainly to exhibit nucleolar details. Papanicolaou used a novel, alcohol-based liquid (wet fixation), and stained with special stain of his own invention, known today as Pap stain, which can pinpoint details of the cytoplasm.[8] The difference in the two techniques shows that the Babes method was nothing more than a technique dependent of the histopathological diagnosis, whereas the Papanicolaou's method was an independent effort with a completely different target (i.e., early diagnosis and hormonal study). Babes' method merely suggests a complementary method, rather than a novel technique for massive preventive control.[9–13] The difference is crucial for the diagnosis of cervical cancer because measuring the ratio of cytoplasm to nucleus and the cytoplasmic details are both important elements of the diagnosis. The importance of wet staining, a technique not found in Babes' method, should not be understated. Papanicolaou stressed this point himself in his 1933 article on the "Sexual cycle in the human female": "Proper fixation of the vaginal smears before drying is important, although this has been somewhat underestimated by most of the workers in this field. A smear that has been allowed to dry either before or after fixation may serve for the simple recognition of a typical stage, as has been done on rodents but is not suitable for a detailed cytological study, especially in the human. The cells, as well as other elements, are affected by the drying and lose their true appearance. Several investigators have probably failed to recognize certain morphological characteristics because of the use of dry smears."[7] In the same article, Papanicolaou also stresses that his staining method (which includes a combination of haematoxylin-eosin and waterblue) is a crucial element of the Pap test. As Papanicolaou argues, this method "secures a sharp outline of the various cell types with a variety of shades from an intense blue to an eosin-red" and secures "much sharper contrasts than with ordinary haematoxylin-eosin."[7] The wet-staining method—which is missing from Babes' technique—is essential for the successful detection of cervical cancer.

Furthermore, the Babes' method, in contrast to the Pap test, has nothing to do with the study of the female hormonal status. Papanicolaou, along with his mentor Stockard, initially developed his method of vaginal smears to study the hormonal cycle in guinea pigs[14,15] and the early detection of human pregnancy[16] In 1933, Papanicolaou published his article on the changes of cellular morphology in vaginal smears during pregnancy in women.[16] Papanicolaou published the first three articles describing the method of vaginal smears used in cervical cancer screenings before the first article published by Daniel and Babes in 1927, an important clue in the dispute on the originality of the method. Moreover, in studying the article by Babes' wife in 1963,[11] 1 year after Papanicolaou's death, one can also deduce that Babes was aware of Papanicolaou's work, but Papanicolaou, according to his articles, was unaware of Babes' work.[17]

As mentioned earlier, Babes approaches the object of his study as a pathologist and not as a cytologist. Babes seemed to perceive the idea of cytology differently than Papanicolaou. This perspective likely explains why he did not develop any system for the grading of alterations or why he did not study or categorize types of alterations. He focused mainly descriptions of cytologic criteria for malignancy that were already known from previous cytological studies. He also measured the ratio between epithelial and inflammatory cells, data with no impact on the detection of cancer. On the contrary, Papanicolaou describes a totally different system of classification with intermediate stages between the normal and the cancerous cell. More specifically, Papanicolaou classified cells into five categories, a classification used systematically in the diagnosis of cervical cancer.[18] But, we acknowledge that Babes, among others, made important observations regarding the importance of the phenomenon known today as "loss of cell connectivity," a disturbance of nucleus-to-cytoplasm ratio (in favor of the nucleus). He also helped identify general nuclear alterations that make up a predominant component of the diagnosis of cervical cancer.

Unlike Papanicolaou's research, Babes and Daniel's article consisted of a small study based on a series of only 20 cases. Babes referred generally to his research but did not present any supporting evidence except from

these 20 cases. However, he did accurately describe the in situ carcinoma and its differential diagnosis from reactive hyperplasia. Babes' only disadvantage is that he generalized his findings on intraepithelial neoplasia, attributing them all to the pathological entity in the presented cases. On the contrary, Papanicolaou's articles include much larger sample sizes, making their conclusions to carry more weight in the medical community.[19]

Few can argue that Papanicolaou—not Aurel Babes—introduced the Pap test into the massive prevention control technique known today. In addition, Babes publish no other articles on his method after his original presentation in 1928.

Nowhere in the Babes and Daniels article do the authors state that their technique can be used to detect early and prevent cervical cancer. The authors did not imply that the procedure could detect cancer or did they insist on administering the cytological technique. Babes and Daniel described an alternative diagnostic method of in situ cervix cancer, not the use of exfoliated cells for a timely diagnosis. On the contrary, Papanicolaou stressed the importance of the need to develop "a simple, inexpensive method of diagnosis that could be applied to large numbers of women in the cancer-bearing period of life" and could detect cervical cancer in its early stages. Papanicolaou clearly envisioned the widespread testing used today by modern medicine. This concept of ubiquitous prevention can been seen throughout his work.[19]

In closing, a detailed study of Babes and Daniel's article leads us to the following conclusions, which are stated by the authors themselves:

a. Babes and Daniel created a mainly histopathological study, probably expanded to include also isolated cells.
b. Pathological—not cytological—methods are used as far as sampling, fixation, and staining are concerned.
c. They used already known cytomorphological criteria for malignancy.
d. They suggest the use of their method as an alternative to the method of tissue sectioning.
e. The study does not apply the concept of exclusive and indepedent support of the diagnosis in cytological sampling. Babes and Daniel do not discuss the possibility of the application of their method for massive preventive control of cervical cancer. Papanicolaou did specifically mention his ability of techniques to prevent cancer of the cervix.

In a 1928 thesis, Negru noted that Pasternac had argued that Babes invented the method in 1927.[20] However, Babes' support of Pasternac's thesis at Bucharest University should give pause to this claim. Also, Pasternac's main work took place in the Department of Gynaecology in Coltea Hospital, under the guidance of his professor Daniel and the close cooperation of Babes. Babes and Daniel seem to have proceeded through a known "walkway," attempting to standardize a method for the description of cytological findings in cervical cancer. Given Daniel's scientific background and his familiarity with various cytological techniques used in his research in Paris when he worked with Widal and Ravaut,[21] one should attribute the ideas for the research on the cervical cancer to Daniel. But, the systematic description of their findings likely belonged to Babes. However, neither Babes nor Daniel conceived the idea of the general application of the method and the concept of preventive control.

In 1964, 2 years after the death of Papanicolaou and Babes, Professsor George Wied wrote an editorial at Acta Cytologica entitled "Pap test or Babes method." The author tended to be objective and avoided taking sides in the controversy by saying that the history of medicine is the ultimate judge as to whom the invention of this method should be accredited. This historical review methodically shows that Papanicolaou, and not Babes, was the researcher who established the test for the early diagnosis of cervical cancer.[13] Sir Francis Darwin (1848–1925), son of the famed naturalist Charles Darwin, offers a fitting response to anyone who doubts the primacy of Papanicolaou's work: "In science, the credit goes to the man who convinces the world, not the man to whom the idea first occurs."

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Nephroblastoma is a Success of Paediatric Oncologic Therapy. How Further Can We Go?:

Results of a Cyto-histologic Correlation Study

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Nephroblastoma is a success of paediatric oncologic therapy, yet, there are still some cases where favourable response to preoperative chemotherapy is not achieved. Fine needle biopsy has the role of diagnostic confirmation and, idyllically of predicting a response to preoperative chemotherapy.

To advance in this aim, we retrieved a total of 14 nephroblastomas, (seven male patients and seven female with a mean age of 44.4 months), diagnosed in our department by fine needle biopsy and submitted afterward to chemotherapy and nephrectomy, in the last 10 years.

Correlation between cytologic features, (morphology, cell death, and proliferation (Ki-67 labelling index), and post chemotherapy tumour evaluation was done. Cytologic pattern per se was not predictive of histologic tumour classification ($P = 0.6061$). We did not find any correlation between the percentage of necrosis and apoptosis ($P = 0.682$) in cytologic smears and histologic regressive changes but when both these two criteria coexisted in cytologic blastemal component of nephroblastomas, this fact seemed to lead to a favourable response of the tumour to chemotherapy. When evaluation of Ki-67 labelling index was done in the blastematous component present in the smears, divergent results were obtained. The small number of cases prevented any firm conclusions.

By summing up, our results support the idea that there are probably two types of blastema in nephroblastoma with different "suicide" potential and chemotherapeutic response. Further studies should be performed to stratify the influence of necrosis, apoptosis, and proliferation in chemosensivity of nephroblastomas. Diagn. Cytopathol. 2010;38:477–481.

Key Words: nephroblastoma; cytology; histology; chemotherapy; regression

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It has been the standard treatment approach of the International Society of Paediatric Oncology (SIOP) to submit all renal tumours to preoperative chemotherapy.[1] The major benefit of this attitude is the size reduction of the tumour and as a consequence, their easier surgical removal, minimizing the risk of intra operative spillage.[2]

It has also been reported that, in most cases, chemotherapy reduces the size of the tumour, changes the proportion of immature/mature elements and induces necrosis in the most chemosensitive components.[3]

The evaluation of the magnitude of these changes remains a problem. Neither SIOP trials studies nor the National American Study Group (NWTS), which recommends primary surgical resection of the tumour, have access to simultaneous specimens before and after the chemotherapy. First studies along this time of approach have been performed using initial biopsies as representative of the tumour pattern before chemotherapy.[3]

Few studies have documented the modifications of the tumour after chemotherapy and comparative analysis of histological patterns in nephroblastomas with and without preoperative chemotherapy is deficient.[3–6] In most of these studies, the control group is constituted by lower group risks tumours than those that constitute the case study group; this comparison is thus biased because the tumours of the control group are not subjected to chemotherapy.[7]

Critics of the SIOP protocol advocate that its standard approach might delay the administration of adequate therapy to other renal tumours that do not respond to the standard preoperative chemotherapy of nephroblastoma. To obviate this disadvantage, in our department, we follow the SIOP protocol for evaluation and treatment of paediatric renal tumours, performing in all paediatric renal tumours fine needle biopsy (FNB) with cytologic diagnosis before chemotherapy is initiated. Since 1998, we have diagnosed, in our department, 14 unilateral nephroblastomas by FNB. All cases were subjected to preoperative chemotherapy, nephrectomy, and histologic confirmation.

Table I. Cytological and Histological Characterization of the Series

Case no.	*Cytologic classification*	*Histological type*	*Anaplasia nuclear unrest*	*Risk group-SIOP*	*Necrosis/apoptosis cytology*	*Regressive changes-histology*	*Impressive post-QT changes*[a]
1	Blastemal type	Blastemal type	Absent	High	−/−	Moderate	Myxoid degeneration
2	Blastemal type	Blastemal type	Absent	High	−/−	Moderate	Scar
3	Mixed type	Regressive type	Absent	Intermediate	+/+++	Extensive	Granulomatous reaction
4	Mixed type	Stromal type	Absent	Intermediate	+/−	Minor	Maturation (epithelial/stromal)
5	Mixed type	Completely necrotic	Absent	Low	−/+++	Extensive	Scar
6	Stromal/epithelial	Mixed type	Absent	Intermediate	+/−	Absent	
7	Epithelial type	Mixed type	Absent	Intermediate	−/−	Minor	
8	Blastema/stromal	Blastemal type	Absent	High	+/−	Minor	Myxoid degeneration
9	Not done[b]	Stromal type	Absent	Intermediate	++/−	Moderate	Vascular and myxoid degeneration
10	Blastemal type	Mixed type	Absent	Intermediate	+/+++	Minor	
11	Stromal type	Regressive type	Present	Intermediate	+/+	Extensive	Vascular changes and myxoid degeneration
12	Blastemal type	Mixed type	Absent	Intermediate	−/+++	Extensive	Vascular changes
13	Blastemal type	Mixed type	Absent	Low	+++/+++	Extensive	Scar
14	Epithelial type	Mixed type	Absent	Intermediate	++/+	Extensive	Epithelial maturation

[a]In all tumours coagulative necrosis and xhantogranulomatous reaction was a constant characteristic.
[b]In case nine, necrosis and blood contamination made the classification of the tumour impossible.

To find cytologic morphologic/molecular features that may help us in the correct chemotherapeutic approach, we aimed to correlate pre chemotherapeutic Nephroblastomas cytologic features, such as morphologic pattern, cell death, and proliferation with pos chemotherapeutic histologic pattern, and chemotherapy response (regressive changes).

Material and Methods

We reviewed a total of 14 cases with nephroblastoma diagnosed in our department by FNB and submitted afterward to chemotherapy and nephrectomy, from January 1998 to 31st December 2008. Clinical records were reviewed to obtain clinical information on the presence of associated genetic syndromes, or genital anomalies. Information on imagiologic characteristics pre and postoperative as well as type and duration of chemotherapy and follow-up data were also looked for in every case.

Fine Needle Biopsy

FNB smears were analysed according to the proportion of blastemal, mesenchymal, and epithelial components. The characterization of cytological samples according to the predominant cytological pattern was done as follows: when one of the three components, blastemal, mesenchymal, or epithelial, was expressed in more than 75% of the FNB sample, the case was classified according the predominant type (blastemal, mesenchymal, or epithelial). When similar proportions of the three components were present, the tumour was classified as mixed, and when one of the components was represented in less than 25% the tumour was characterized according to the predominant other two components. Whenever needed, to evaluate the presence of differentiation, immunostains for cytokeratins (AE1AE3) or muscle differentiation (desmin) were performed, directly in the smears or in cytospins. To evaluate the role of proliferation in tumour response to chemotherapy, immunostain with MIB-1 monoclonal antibody to Ki-67 (SP6 clone, Neomarkers) with heat epitope retrieval was performed in three of five cytologic smears classified as blastemal type tumours (case 1, 2, 13). Ki-67 labelling index (Ki-67 LI) was accessed by counting 600 to 1600 nuclei in monolayer tumour cells (cytology preparations). In the two other cases considered blastemal type in cytology (cases 10 and 12) (Table I), we were not able to count enough cells to evaluate Ki-67 immunostain.

The percentage of necrosis and apoptosis was graded separately, in extensive (+++), moderate (++), poor (+), and null, according to the percentage of necrosis or apoptosis in the whole FNB sample (>75%; 25–75%; less than 25% and null, respectively). The presences of anaplasia or nuclear unrest features were also systematically recorded.

Histology

Histological slides were reviewed in every case. The classification and staging of nephroblastomas was performed according to SIOP 93-01 protocol. A particular attention was paid to regressive changes. The proportion of these changes in the sampled tumour was estimated, and scored as minimal (<25%), moderate (25–75%), and extensive

Table II. Characterization of FNB Samples According to the Percentage of Necrosis and Apoptosis

	Necrosis	*Apoptosis*
Null	5 (35.7%)	7 (50.0%)
+	6 (42.8%)	2 (14.3%)
++	2 (14.3%)	0
+++	1 (7.1%)	5 (35.7%)
Total of samples	14	14

(>75%). The percentages of blastemal, mature and immature stroma, mature and immature epithelial components were also evaluated. Mitotic figures were counted in 10 high power fields (×400 objective).

Statistical Analysis

Data were analysed using Statview software. The χ^2 test was used to compare the data proportions.

Results

Clinical Data

The series of 14 patients was composed by seven male patients and seven females. The age of the patients varied from 10 to 127 months (ISD = 44.4 months; median = 38.5).

No patient had a previous history of syndrome, malformation, or hemihypertrophy that might be associated to nephroblastoma (Denys-Drash, Beckwith-Wiedemann or WARG). Only one patient had metastasis (lung) at the time of diagnosis. After cytological diagnosis, 13 patients, all but patient 9 in whom the cytologic diagnosis was only suggestive of nephroblastoma due to poor representativeness of the FNB, were subjected to a preoperative chemotherapeutic treatment of 4 weeks with two-drugs (Actinomycin D and Vincristine), according to SIOP93-01 protocol. In case 9, nephrectomy was performed 10 days after FNB. The interval between FNB and nephrectomy was in average 31 days (min of 10; max of 43). The diagnosis of nephroblastoma was confirmed in all cases. The postoperative treatment was decided according to the stage and histology of the tumour-SIOP93-01. Follow-up data were obtained for all patients. Until the present time, no patient died and only one patient (patient no 14) experienced a tumour relapse 13 months after nephrectomy. Information on CAT Scan reduction size of the tumour after chemotherapy was obtained in 7 patients with shrinkage of the tumours in 6 patients (Table I). No quantification of this reduction was obtainable.

Cytological Samples

Cytological samples evaluation of the predominant cytological pattern and percentage of necrosis and apoptosis are reported in Tables I and II. Most of FNB samples were characterized as blastemal type (Table III).

Table III. Characterization of FNB Samples According to the Cytological Pattern

	No. of cases
Blastemal type	5 (38.5%)
Mesenchymal type	1 (8.0%)
Epithelial type	2 (15.4%)
Mixed	3 (23.1%)
Mesenchymal/ epithelial	1 (7.7%)
Blastemal/mesenchymal	1 (7.7%)
Total	13[a]

[a]In one case characterization was not performed as it was poorly represented.

Ki-67 LI found for the three selected cytologic smears classified as blastemal type tumours (cases 1, 2, 13) was of 76.0%, 8.6%, and 26.4%, respectively.

Post Therapy Specimens

After nephrectomy, tumours were staged according to SIOP Staging Criteria for Renal Tumours of Childhood (stage I-5; II-7; and III-2) and classified in Risk Groups according to the SIOP93-01 protocol—low risk (2–14.3%), intermediate risk (9–64.3%), and high risk (3–21.4%) (Table II).

The tumours were classified according to the predominant pattern (SIOP93–01) as completely necrotic (n = 1), regressive type (n = 2), stromal type (n = 2), blastemal type (n = 3), and mixed type (n = 6–42.9%) (Table II). No anaplasia was found in any tumour, and nuclear unrest was found in one case (case 10). Mitoses were counted in 11 cases with a mean number of 29 mitoses/10HPF (400×) (min of 4; max of 108). In three cases, (cases 5, 11, and 14), due to the intensive regressive changes, we were not able to do any mitotic counting.

In two cases (14.3%) nephrogenic rests were identified (in one tumour of perilobular and in another one of intralobular type).

Tumours responded well to therapy, as most cases (n = 9-64.3%) had extensive to moderate regressive changes (Table I). Regressive changes were similar in all cases and were characterized mainly by coagulative necrosis, nodules or extensive areas of fibrohistiocytic reaction with oedematous, fibrinous or hyalinized appearance, and hemosiderin-laden macrophages. Recent haemorrhage and vascular thrombosis were also common. Foci of infarct of previous blastemal or rhabdomyoblastic areas were seen in 6 tumours (1; 2; 4; 7; 11; 14). Regressive areas were punctuated with islands of residual tumour.

Intensive maturation of the residual tumour, with the presence of mature tubules and glomeruli, as well as cartilage, adipose tissue, and areas of rhabdomyoblastic differentiation was seen in two tumours (cases 9 and 11, respectively). Granulomatous foreign body reaction was only seen in case 3.

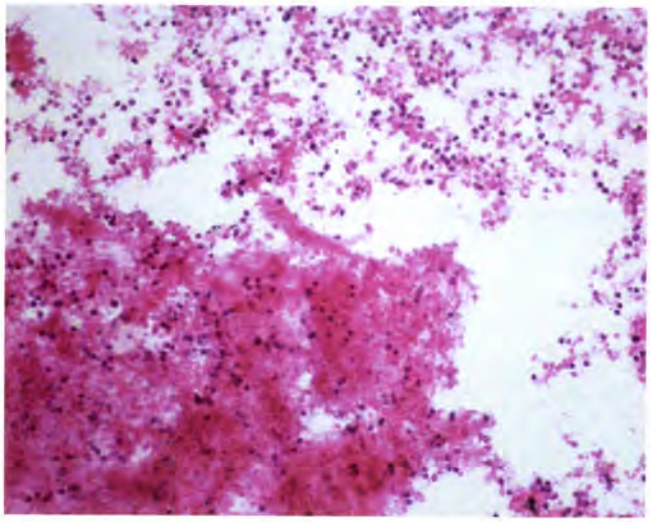

Fig. C-1

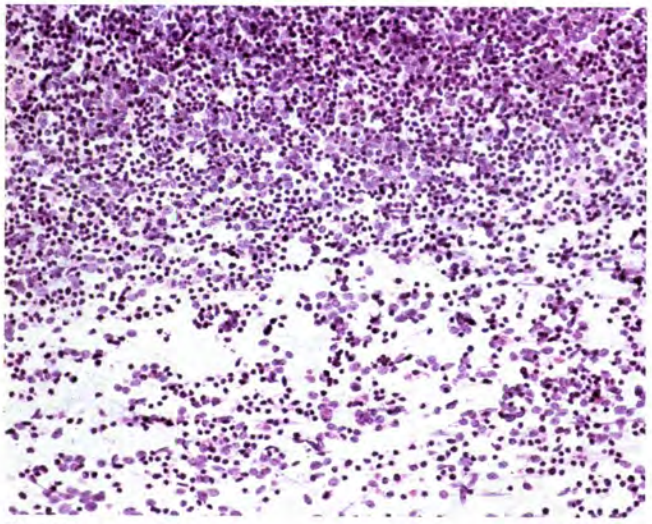

Fig. C-2

Figs. C1–C2. Fig. C-1. Nephroblastoma cytology (case 13)—intense apoptosis and necrosis. **Fig. C-2.** Nephroblastoma cytology (case 12)—intense apoptosis and almost absence of necrosis.

Table IV. Cytological and Histological Characteristics of the Five Nephroblastomas Considered as "Blastemal Type" in Cytology

	Cytology	*Cytology*	*Histology*		*Histology*
Case	*Apoptosis*	*Necrosis*	*Risk group*	*MI*	*Regressive changes*
1	–	–	High	50	Moderate
2	–	–	High	11	Moderate
10	+++	+	Intermediate	50	Minor
12	+++	–	Intermediate	4	Extensive
13	+++	+++	Low	108	Extensive

Discussion

We know from previous reports that nephroblastomas generally decrease in volume after chemotherapy, generally due to necrosis. However, there are some reports that mention otherwise.[8] This happens more frequently in tumours that ab initio were of stromal type or epithelial type.[3] These tumours are considered to be less sensitive to chemotherapy and generally tend to differentiate with chemotherapy instead of suffering necrosis.[9] In our series, information on imagiologic regression was only possible in seven tumours (cases 4, 8, 9, 10, 11, 12, and 13). No data were available on the other seven cases. In these evaluated cases, all tumours regressed in size after chemotherapy except for case 4. Case 4 was classified in cytology as mixed type, but curiously cytologic smears showed an impressive rhabdomyoblastic differentiation. In the surgical specimen, it was classified as stromal type, with remarkable epithelial and mesenchymal maturation—almost teratomatous aspects. As expected, regressive changes were minor in this case. Curiously, case 11 was the only case classified as stromal type in cytology and in postoperative specimen, regressive changes observed were extensive and the tumour was classified as regressive type. No rhabdomyoblastic changes were seen in cytology or in post chemotherapy specimen. We think that this unexpected behaviour may be a consequence of the selection sample effect of FNB.

When comparative analysis was performed, between cytologic pattern and histologic classification as well as tumour response to chemotherapy, we realised that the cytologic morphology pattern per se was not of any value in predicting whether histology would be classified as High, intermediate, or low ($P = 0.6061$) risk or whether it would have a significative impact in the type and extension of regressive changes ($P = 0.1663$).

The presence of coagulative necrosis in cytologic smears was erratically distributed within the series, and we did not find any correlation in the percentage of necrosis or apoptosis ($P = 0.682$) in cytologic smears and tumour response. These results persisted even when recode of extension of necrosis and apoptosis was performed (extensive and moderate vs. absence and minor) in tumour cytology. All cases with absence or minor cytologic necrosis or apoptosis were classified in histology as high or intermediate risk, reflecting a bad response to chemotherapy. Cases 13 (Figs. C-1, C-2) and 5 histologically classified as low risk and cytologically classified as blastemal type had extensive cytologic apoptosis and necrosis or extensive cytologic apoptosis and absence of, respectively. Both these two cases showed in histology extensive areas of fibrous and hyalinized tissue. Case 13 was the only case where necrosis and apoptosis were both considered extensive. These findings seem to suggest that when blastemal component predominates in cytology, the extent of apoptosis together with necrosis in the pré chemotherapy tumour seems to have an impact in the chemotherapy response of the tumour (Table IV) (Figs. C-1 and C-2). Supporting these results, we remarked that all high risk specimens, [blastemal type histology, (case 1, 2, and 8)],

were all mainly composed by blastema in cytology with minor or absent necrosis and apoptosis. These data do not support the mentioned idea in previous reports that blastemal tissue is in general more sensitive to chemotherapy and lead us to the thought that there might be two types of blastemal tissue in what matters chemosensitivity.[3]

It has been suggested that a deregulation of the Bcl-2 mechanism and overexpression of topoisomeraseII and microtubule-related genes, might explain the chemotherapeutic histologic selection, observed in the post chemotherapy specimens.[10] Topoisomerase II is a nuclear enzyme that controls the DNA topological state, and its overexpression is associated with proliferation and chemosensitivity to chemicals used in the treatment of nephroblastomas, such as actinomycin, doxorubicin, and ectoposide.

Although mitosis were evaluated in the majority of the tumours, we found no point in relating this data with histologic grade or regressive changes, as mitotic count was evaluated in the remaining chemoresistent tumour and so in the less sensitive component of the tumour. The prognostic value of Ki-67 as a proliferative blastemal marker is well established in post chemotherapy nephroblastomas.[11] Ghanem et al. proved a prognostic value of Ki-67 proliferative activity in blastemal component. In our study, evaluation of Ki-67 LI was done in pre chemotherapy blastemal cells (cytological material). Despite the few cases in were ki-67 immunostain was performed, we found that cases 1 and 2, both high grade tumours and with minor cytologic apoptosis and necrosis, had completely divergent Ki-67 LI (76.00% and 8.56%, respectively). The other case (Case 13) where Ki-67 LI was evaluated, a value of 26,36% was found. Case 13 was classified as low risk and was our only case with intensive apoptosis and necrotic features in cytology. We do not urge to comment on these data due to the reduced number of cases were Ki-67 immunostain was performed. Further studies should be carried in more numerous series to clarify this point.

When we analysed the type of regressive changes in histology, we found no correlation with any of the following parameters (cytological pattern, necrosis, and apoptosis). This conclusion did not surprised us, because we know that not only cytology smears are influenced by the morphologic selective sample effect (blastema is better aspirated than epithelial or mesenchymatous components) but also the different morphologic components have different chemosensibilities.

Anaplasia and nuclear unrest are associated with therapy resistance and high risk tumours and poor prognosis.[12,13] In our series, we found no anaplastic changes, but nuclear unrest was observed in case 10. Case 10 was classified as a cytological blastemal type with extensive apoptosis but with minor necrosis. After excision, the tumour was considered histologically as a mixed type, intermediate risk, with minor regressive changes. Histologically, case 10 was composed with 2/4 of viable blastemal tissue and most of its regressive changes were constituted by ghosts of ischemic blastemal cells. In this small sample, where only one case with nuclear unrest was detected, it is impossible to evaluate the impact of our conviction, that therapy response is mainly dependent on the type of blastema and its suicide potential. Further studies should be performed to stratify the influence of necrosis, apoptosis, and anaplastic features in chemosensivity of blastema.

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Combining Fine-Needle Aspiration Biopsy (FNAB) and High-Resolution Melt Analysis to Reduce Diagnostic Delay in Mycobacterial Lymphadenitis

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Tuberculous lymphadenitis is the most common cause of extrapulmonary tuberculosis (TB) in developing countries. Lymphadenitis caused by non-tuberculous mycobacteria (NTM) requires consideration, particularly in immunocompromised patients and children in developed countries. Fine-Needle Aspiration Biopsy (FNAB) offers a valuable specimen collection technique, but culture confirmation, mycobacterial speciation and drug resistance testing (if indicated) is often unavailable in TB endemic areas and result in unacceptable diagnostic delay.

We evaluated the diagnostic value of high-resolution DNA melting (HRM) analysis in the diagnosis of mycobacterial lymphadenopathy using FNAB and an inexpensive transport medium. Specimens were collected from patients referred to the FNAB Clinic at Tygerberg Hospital (June 2007–May 2008) with clinical mycobacterial lymphadenitis. Cytology, culture, and HRM were performed on all specimens. The reference standard for disease was defined as positive cytology (morphological evidence plus mycobacterial visualization) and/or a positive culture.

Specimens were collected from 104 patients and mycobacterial disease was confirmed in 54 (51.9%); 52 Mycobacterium tuberculosis, 1 Mycobacterium Bovis BCG and 1 NTM. Cytology was positive in 83.3% (45/54) and culture in 72.2% (39/54) of patients. HRM identified 57.4% (31/54) of cases. By using the defined reference standard, we recorded 94.0% specificity and 51.9% sensitivity (positive predictive value 90.3%) with HRM analysis.

HRM analysis allowed rapid and species specific diagnosis of mycobacterial lymph adenitis in the majority of patients, permitting early institution of appropriate therapy. Optimization of this technique requires further study. Diagn. Cytopathol. 2010;38:482–488.

Key Words: fine-needle aspiration biopsy; mycobacteria; tuberculosis; lymph node; PCR; high-resolution melting analysis

Resource limited countries carry the brunt of the global tuberculosis (TB) epidemic, particularly those affected by the parallel human immunodeficiency virus (HIV) pandemic.[1] According to the most recent World Health Organisation (WHO) estimates, in 2007, there were 9.3 million incident (newly diagnosed) TB cases of whom 1.4 million (14.8%) were HIV infected. The African region accounted for 79% of HIV-infected TB cases.[1] Although TB incidence rates seem to plateau and/or decline in most regions, absolute numbers continue to rise due to increases in population size. The projected scale of the epidemic and ongoing transmission of drug resistant TB remains alarming.[1] WHO estimated that between 2000 and 2010, 1 billion people will be newly infected with *Mycobacterium tuberculosis*, resulting in 200 million TB cases and 35 million deaths.[2]

Peripheral lymphadenitis is the most common extrapulmonary manifestation of TB.[3,4] TB lymphadenitis is also the most common cause of persistent cervical lymphadenopathy in children from TB endemic areas.[5–7] In developed countries where the incidence of TB is low, NTM are frequently responsible for mycobacterial lymphadenitis, particularly in children and HIV-infected immune compromised adults.[3,8,9] In patients with a peripheral lymph node mass fine-needle aspiration biopsy

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(FNAB) is a valuable and underutilized specimen collection technique. This simple and safe procedure allows rapid confirmation of mycobacterial disease using cytomorphology and direct mycobacterial visualization with either Ziehl–Nielsen (ZN) staining or fluorescence microscopy.

Mycobacterial culture is required for accurate species determination (speciation) and drug susceptibility testing,[10–13] because organisms in the *M. tuberculosis* complex are morphologically indistinguishable. The amount of material harvested during FNAB is minimal, and the needle needs to be rinsed at the bedside in liquid medium to facilitate culture. Although FNAB can be safely performed as an outpatient procedure by well-trained nurses,[14] the need for direct inoculation and unavailability of liquid culture tubes limited decentralization. Use of an inexpensive transport medium for direct inoculation has been described,[15] which should facilitate mycobacterial culture from FNAB's performed in rural clinics and hospitals. Direct bedside inoculation at the time of FNAB collection provides an excellent diagnostic yield, but culture results may take up to 6 weeks and requires additional speciation.[10,16]

Performing nucleic acid amplification tests (NAAT's) on FNAB specimens may provide a rapid species specific diagnosis and expedite access to appropriate therapy. A recent systematic review demonstrated highly variable results with NAAT's to diagnose TB lymphadenitis, reported sensitivities ranged between 2 and 100% (specificities 28–100%).[17] Most NAAT's analyze the polymerase chain reaction (PCR) products by gel electrophoresis or other open tube formats, which afford the opportunity for laboratory cross contamination. These technically challenging techniques will pose problems in countries with limited laboratory resources. High-resolution DNA melt analysis (HRM) is a simple "closed-tube" technique that reduces the risk of cross contamination. Specific PCR amplicons are identified according to their characteristic DNA melting profile. The amplicons are combined with a saturating dye that fluoresces in the presence of double stranded DNA. It is heated through a range of temperatures while fluorescence is monitored.[18] As the double stranded DNA dissociates (melts) into single strands, the fluorescence decreases. The melting peak of the specific infectious agent is identified. *M. tuberculosis* products melt at 90.5 C and other members of the *M. tuberculosis* complex at 86 C. This simple technique can be used in routine diagnostic laboratories.[18,19]

The aim of our study was to evaluate the value of PCR-based HRM analysis,[18] to provide a rapid and accurate diagnosis of mycobacterial disease using routinely collected FNAB specimens directly inoculated into liquid transport medium.

Materials and Methods

All adults and children referred to the FNAB Clinic at Tygerberg Hospital (June 2007–May 2008) with a superficial lymph node mass suggestive of possible mycobacterial lymphadenitis and in whom written informed consent to participate in the study was obtained, were included.

Specimen Collection

FNAB was done following standard protocol as an outpatient procedure by a pathologist.[10] The lymph node was stabilized by the aspirator and two needle passes were performed using a 23- or 25-g needle attached to a 10-mL syringe while applying a constant suction of no more than 2 mL. From each aspirate two smears were prepared one fixed with commercial cytology fixative for Papanicolaou staining and the other air dried for the Giemsa and subsequent ZN staining. The residual material in the syringe and needle was collected by withdrawing an aliquot of liquid growth media from the TB transport bottle into the syringe and then expelling the contents back into the bottle. No additional needle passes were performed to collect material for microbiology or PCR. The TB transport bottles were prepared "in-house" in a laminar flow cabinet: 10 mL headspace glass vials containing 1 mL of Middlebrook 7H9 broth (with 0.2% glycerol and 0.05% Tween 80 added), sealed with 20 mmTFE/Sil Septa and 20 mm Aluminium open top seals and autoclaved at 120 C for 20 minutes.[15]

Cytology

Stained smears were evaluated for adequacy and to make a morphological diagnosis. If any specific lesion such as a lymphoepithelial cyst or neoplasia was present, this was reported. Alternatively, we reported "non-specific reactive lymphadenopathy" or "cytologically consistent with mycobacterial infection", based on specific morphological criteria.[20–22] In immunocompetent patients with TB, epithelioid granulomata and epithelioid histiocytes may be identified in a background of reactive lymphocytes and plasma cells (Fig. C-1). A small amount of amorphous necrosis may also be identified. In immunocompromised patients, the cytological picture is that of abundant necrosis in which neutrophils and cellular debris are prominent (Fig. C-2). In patients with lymphadenitis due to *M. bovis* BCG or NTM infection, histiocytes with abundant foamy cytoplasm may be present.[8,23,24]

Mycobacteria were visualized using a ZN stain performed on a Giemsa stained slide according to a slightly modified technique (Fig. C-3). Smears were differentiated in 3% acid alcohol for 1 minute and counterstained with 1% methylene blue for 10 seconds only. In addition, one of the Papanicolaou stained slides was screened using a Zeiss Axiophot microscope with a fluorescent attachment and a wide-band blue excitation filter (450–480 nm);

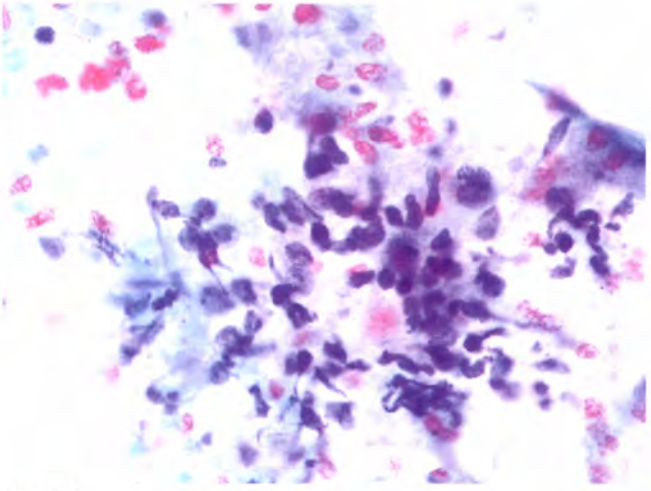


Fig. C-1

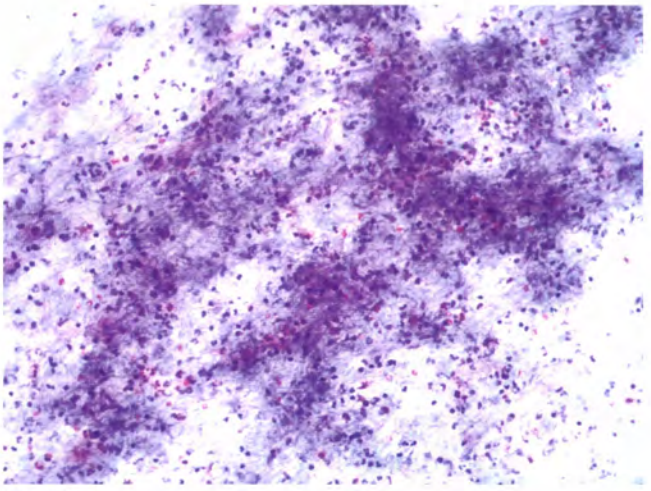


Fig. C-2

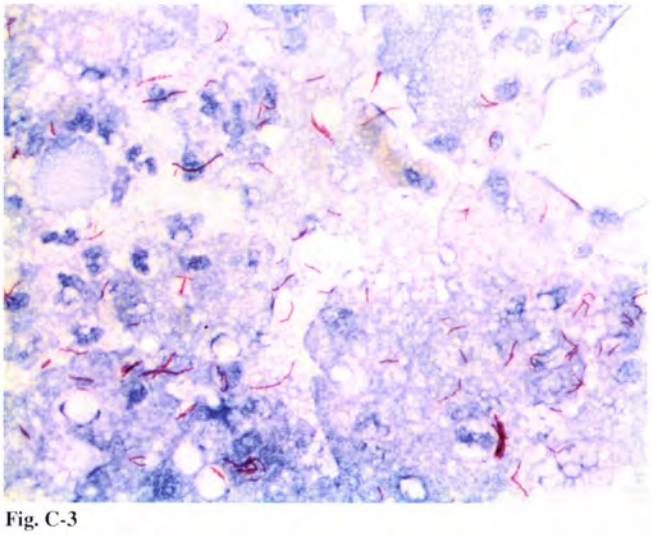


Fig. C-3

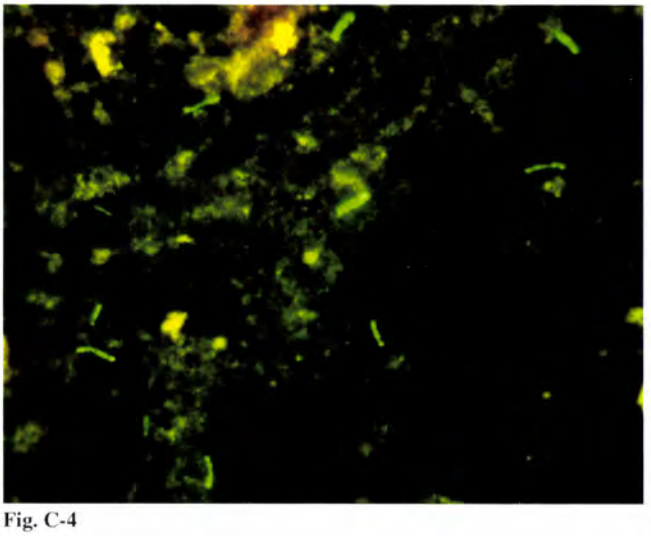
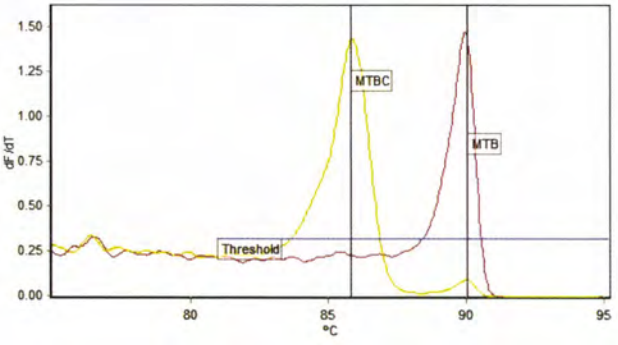


Fig. C-4



No.	Colour	Name	Genotype	Peak 1
1		M.tuberculosis	MTB	89.98 (MTB)
2		M.bovis	MTB complex	85.85 (MTBC)

Fig. C-5

Figs. C-1–C-5. Fig. C-1. Epithelioid granuloma in an immune competent patient. (Papanicolaou, ×400). **Fig. C-2.** Abundant necrosis in which neutrophils and cellular debris are prominent consistent with tuberculous lymphadenitis in an immune compromised patient. (Papanicolaou, ×400). **Fig. C-3.** Modified ZN stain in a lymph node aspirate. (Ziehl-Neelson, ×400). **Fig. C-4.** Autofluorescence of mycobacteria in a lymph node aspirate. (Papanicolaou, ×1000 with a wide-band blue excitation filter). **Fig. C-5.** Rotorgene software depicting the derivative melt peaks located within defined temperature bins. *M. tuberculosis* products melted at 90°C and *M. tuberculosis* complex at 86°C.

mycobacteria fluoresce as brilliant yellow bacilli, thin and slightly curved with polar enhancement and a uniform length of 2.0–2.7 microns (Fig. C-4).[11]

Microbiology

In the laboratory, 0.5 ml of the media was aspirated from the TB transport bottle, inoculated into a separate MGIT tube containing the PANTA antibiotic mixture and incubated in a BACTEC MGIT 960 machine for 42 days. All positive MGIT tubes were confirmed to contain acid fast bacilli in the absence of bacterial contamination by ZN staining. Mycobacteria were identified as *M. tuberculosis* or other by standard PCR.[25]

Extraction of Mycobacterial DNA

The TB transport bottles containing the remaining 0.5 ml media were stored at −20 C until further analysis. Mycobacteria within a 250 µl aliquot were pelleted by centrifugation at full speed (14,000 rpm) for 10 minutes. The supernatant was discarded and the bacterial pellet was resuspended in 1-mL phosphate buffered saline and re-centrifuged at full speed (14,000 rpm) to remove residual blood. Thereafter, the bacterial pellet was resuspended in 30 µl ddH_2O and heat inactivated at 100 C for 20 minutes. The lysed bacterial extract was stored on filter paper (FTA® Classic Card Collection, Storage, and Purification system, Whatman, UK). Genomic DNA was eluted from the filter paper cards following manufacturers' instructions (high pH, low pH protocol) and served as the template for subsequent PCR amplification.

Speciation and HRM Analysis

Primers were designed to amplify the Region of Deletion 9 (RD9), present in *M. tuberculosis* and *M. canetti*, but absent from all other members of the *M. tuberculosis* complex. PCR was performed as previously described[19] using an annealing temperature of 62 C and the following primers RD9Fs1 5′-CAA GTT GCC GTT TCG AGC C-3′, RD9FR 5′-GCT ACC CTC GAC CAA GTG TT-3′ and RD9INT 5′-CAA TGT TTG TTG CGC TGC-3′.[26] Resulting amplification products underwent HRM analysis in a Rotorgene™6000 real-time rotary analyzer (Corbett Life Science, Australia). The thermal denaturation profiles were measured as previously described.[19] The infectious agent was identified by the Rotorgene 6000™ software according to the presence of derivative melt peaks located within defined temperature bins. *M. tuberculosis* PCR products melt at 90 C (*M. tuberculosis* could not be differentiated from *Mycobacterium canettii*, but *M. canettii* is very rarely observed and has not been recorded in the study setting) whereas PCR products of other members of the *M. tuberculosis* complex melted at 86 C (Fig. C-5).

Reference Standard for Mycobacterial Disease

The reference standard for the presence of mycobacterial disease[17] was defined as positive cytology (morphology consistent with mycobacterial infection plus direct visualization of the organism) and/or positive culture with speciation.

Statistical Analysis

We assessed the diagnostic accuracy of PCR-based HRM analysis compared to cytology, mycobacterial culture and the reference standard as defined using Pearson's chi-square (χ^2) and Fisher's exact tests.[27] All analyses were conducted using Statistica Version 8.[28] Ethics approval was obtained from the Institutional Review Board of Stellenbosch University (N05/03/043).

Results

FNAB specimens were collected from 104 patients with possible mycobacterial lymphadenitis in whom complete cytopathology and mycobacterial culture results were available together with PCR-based HRM analysis. The median age was 30 years with a range from 4 months to 62 years. Children less than 13 years of age compromised 21.2% of the study population. There was no significant difference in gender distribution. HIV status was known in 46.1% of patients (48/104) and 75% of these were HIV positive (36/48). There were 23 HIV-positive patients and 6 HIV negative patients with mycobacterial disease as defined by the reference standard above. Table I summarizes the demographics and diagnostic outcome of the study population.

Applying the defined reference standard 54 of the 104 patients (51.8%) were diagnosed with mycobacterial lymphadenitis. Mycobacterial culture was positive in 39/54 (72.2%) patients; 37 *M. tuberculosis*, 1 *M. bovis* BCG, and 1 NTM. The child with *M. bovis* BCG was less than 2 years old; four others in this age group were positive for *M. tuberculosis*. Cytology was positive in 83.3.9 % (45/54) of the cases. Cytology and culture were both positive in 30/54 (55.6%) cases, whereas HRM analysis was positive in 57.4% (31/54) of cases identified using the reference standard. The calculated sensitivity of HRM analysis was 51.9% and the specificity 94.0% (Fig. C-2) with a negative predictive value of 64.4% and a positive predictive value of 90.3%. Concordance between the different diagnostic modalities and HRM analysis was poor, with Kappa values of 0.39 vs. cytology, 0.27 vs. mycobacterial culture, 0.19 vs. both cytology and culture, and 0.45 vs. cytology and/or culture (the defined reference standard).

To investigate a possible association between mycobacterial load and the result of PCR-based HRM analysis, we tested for any correlation between the time to positivity (TTP, often used as a surrogate of mycobacterial load)

Table I. Demographics and Diagnostic Outcome

	Numbers	*Percentage*
Number of cases	104	
Age		
≤2 years	6	5.8
≤13 years	22	21.2
>13 years	77	74
Unknown	5	5
Gender		
Male	48	46.2
Female	51	49.0
Unknown	5	4.8
HIV status		
Positive	36	34.6
Negative	12	11.5
Unknown	56	53.9
Cytodiagnoses		
Malignancy	12	11.5
Reactive node	43	41.4
Other (e.g., cyst)	4	3.9
Cytology positive mycobacterial infection	45	43.3
Cases with mycobacterial disease		
Culture and/or cytology positive (Reference Std)	54	100
Cytology positive	45	83.3
Culture positive	39	72.2
Culture positive and cytology positive	30	55.6
PCR positive mycobacterial infection	31	57.4

and PCR outcome. Among those with positive mycobacterial cultures, no correlation between the time to positivity and PCR-based HRM analysis could be demonstrated; mean TTP in PCR positive cases was 18 days compared with 22 days in PCR negative cases ($P = 0.22$) (Fig. C-5).

Discussion

With global coordination of control efforts TB incidence rates seem to be stabilizing and showing signs of decline in all six world regions. However, the TB disease burden in areas plagued by the concurrent HIV pandemic remains at unprecedented levels.[1] Although there is some assistance for the development of strong laboratory networks in developing countries, the existing infrastructure remains poor in most TB endemic areas. South Africa, despite its relatively good infrastructure and health care services, in 2007 reported a national TB incidence of 739.6/100,000 population and an adult TB incidence in the Western Cape Province, a high burden region, of 1005.7/100.000.[29]

In TB endemic areas with ongoing transmission, children constitute a significant percentage of the total caseload, estimated at 15–20%.[30] Immune immaturity and/or compromise, most often due to HIV infection,[31,32] influence the risk to develop extra pulmonary and/or disseminated TB as well as the likelihood of rapid disease progression and TB-related mortality.[33,34] Autopsy studies in Africa[32,35–38] have shown that up to 54% of deaths in HIV-infected adults and 20% in HIV-infected children are due to TB. Reducing this mortality and morbidity necessitates early detection, efficient diagnosis and timely institution of appropriate therapy.

FNAB is a simple, non-invasive specimen collection technique in patients with peripheral lymph node masses.[10] It assists with rapid diagnosis of mycobacterial disease, but also helps to rule out alternative diagnoses that may require urgent treatment such as neoplasia. Diagnostic sensitivity is dependent on the experience of the pathologist and for mycobacterial disease varies from 32 to 78%.[10,39,40] Identification of the organism is essential particularly in immune compromised patients, as other opportunistic infections such as fungal organisms may elicit a similar morphological reaction pattern. Mycobacteria may be visualized using ZN staining, which is a very simple stain but has suboptimal sensitivity (20–62%).[10,17,41,42] Autofluorescence, using the ability of mycobacteria on Papanicolaou stains smears to fluoresce using a blue excitation filter requires no additional staining and improves sensitivity (65–67%).[10,11] Culture is often regarded as the "gold standard", but is limited by poor sensitivity (reported to be as low as 2–34%)[40,43] and is highly dependent on the culture medium and inoculation technique used. A positive result is delayed by 1–6 weeks and requires additional PCR-based testing for speciation.

Direct NAAT application provides results in 3 to 6 hours and has been evaluated with respiratory and non-respiratory specimens such as FNAB's.[17,42–46] Test sensitivity with respiratory specimens is highly dependent on mycobacterial load and use current PCR-based tests are only advised in patients with sputum smear-positive TB. Results with extra-pulmonary disease have been variable but recent studies have shown excellent results. Use of a nested PCR in cervical TB lymphadenitis in Mexican children showed a sensitivity of 96% and a specificity of 93%,[46] whereas a study utilizing DNA from dried and fixed cytology smears showed a sensitivity of 85% and specificity of 95% using nested PCR, although reference standards are not necessarily based on bacteriological confirmation of disease.[47]

The majority of these studies use agarose gel electrophoresis to visualize the products, which is not practical in a microbiology laboratory. The open tube nature of the procedure also allows the release of amplicons, which pose a real risk of cross contamination. A recent systematic review evaluating the diagnostic utility of NAAT's in TB lymphadenitis identified 36 peer-reviewed publications.[17] The authors found marked variation in populations, test techniques, reference standards, volume of material utilized and quality indicators. Few studies controlled for cross contamination and inhibitors in clinical samples, thereby increasing the possibility of both false positive and false negative results. The reference standard used most frequently was culture, although the authors

regard the sensitivity of culture from FNAB to be about 62%. Using an imperfect reference standard may lead to an underestimation of test performance, and this is a major limitation that is rarely acknowledged.[48]

The current study attempted to address some of the shortcomings noted above. The reference standard used is a combination of positive cytology, defined as cytomorphological features consistent with mycobacterial infection combined with identification of the organism using ZN staining or autofluorescence and/or positive culture. The residual material from the fine-needle aspirates was collected in TB transport medium in a sealed bottle, minimizing the possibility of contamination. After washing and concentration of the specimen, the pellets were placed on filter paper for storage and to remove inhibitors present in the specimen. After extraction of DNA, the products were amplified using primers designed to amplify the Region of Deletion 9 (RD9), present in *M. tuberculosis* and *M. canetti*, but absent from all other members of the complex.[19] The amplified products were then identified using high resolution melt analysis, which is a closed tube format that minimizes the possibility of cross-contamination.

This technique is rapid and simple, and the equipment required for the HRM such as the Rotorgene 6000™ real-time rotary analyzer (Corbett Life Science, Australia) is relatively inexpensive. Up to 72 samples may be processed in a cycle which takes approximately 3 hours.

The results of PCR using this technique did not differ significantly from that of cytology or culture when these were assessed independently against the reference standard. The sensitivity is relatively low, but the specificity is high at 94% as is the NPV of 90%. This enables appropriate therapy to be implemented early with a high degree of confidence in the majority of patients with disease, while continuing with culture in the PCR negative cases.

Limited sample volume may have accounted for the low sensitivity observed. No additional needle passes or aspirates were performed and the material collected was limited to the residual amount left in the needle. Sensitivity may be improved if an additional needle pass is performed to obtain material for PCR. No single diagnostic modality was adequately sensitive to enable it to be used alone. FNAB provides material for cytology, culture and PCR using the transport medium described. This is of particular value in resource limited countries where laboratories tend to be centralized.[1] Cytology slides once prepared are stable at room temperature, as is the transport medium where the mycobacterial organism has been shown to remain viable for up to 7 days at room temperature, enabling both culture and PCR.[15]

Ideally, the PCR technique could be refined, increasing the sensitivity and thereby eliminating the need for culture, which is costly and lengthy. Use of the transport bottle facilitates both culture and PCR analysis, but material may be deposited directly onto filter paper for subsequent PCR analysis. Refined techniques need to remain simple inexpensive and appropriate for use in routine laboratories in countries with limited resources and skills that bear the burden of this devastating and persistent disease.

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Oral Epithelial Atypical Changes in Apparently Healthy Oral Mucosa Exposed to Smoking, Alcohol, Peppers and Hot Meals, Using the AgNOR and Papanicolaou Staining Techniques

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To evaluate cytological atypical changes in apparently healthy oral mucosa exposed to smoking, alcohol, hot meals, and peppers using the AgNOR and Papanicolaou methods. A total of 180 individuals were evaluated, of which 60 were smokers, 34 were alcohol users, 52 were habitual peppers and hot meal (exposed) consumers, 24 were non-exposed, and 10 were patients with Oral Squamous Cell Carcinoma (OSCC), as an internal control. Cytological materials were obtained by brushing of buccal mucosa, on the border of the tongue and on the floor of the mouth, and participants underwent the Papanicolaou test for cytological changes and AgNOR staining for evaluation of the mean number of AgNOR dots per nucleus. SPSS program was used to perform the Pearson chi-square test. The 95% confidence level, Odds Ratio (OR), and the 95% Confidence Intervals (CI) were used.

The features of cytological atypia were verified among 10 individuals, including 5 smokers, 2 alcohol users, 2 hot meals and peppers consumers, and one non-exposed. For atypia among tobacco smokers, the adjusted Odds Ratio (OR) and the 95% CI were found to be 2 (0.246–16.24). Increased keratinization was detected among 27 (45%) of the smokers ($P < 0.0001$), 17 (32.7%) of the pepper and hot meals consumers ($P < 0.005$), 4 (11.8%) of the alcohol consumers, and among 2 (3.7%) of the non-exposed group. Statistical analyses revealed a greater mean number of AgNORs per nucleus in smokers (3.68) followed by (2.82) alcohol consumers, compared to the habitual peppers and hot meal consumers (2.28) and the non-exposed group (2.00). What's more, 80% of the smears with cytological atypia were identified with 6 ± 2 AgNOR mean count.

The increase of the variables suggests that the evaluation of epithelial atypical changes in individuals exposed to smoking and alcohol carcinogens may be a useful screening tool. While hot meals and peppers didnot seem to be a risk for oral mucosal proliferation, they increased the potency of keratinization and infection. Diagn. Cytopathol. 2010;38:489–495.

Key Words: Oral epithelial; Alcohol; Smoking; Hot meal; Peppers

Oral cancer is a serious disease, which, in many cases, has a disastrous outcome. Most oral cancers are squamous cell carcinomas, and the vast majority of oral squamous cell carcinomas (OSCC) are preceded by precursor lesions that can present as leukoplakia, erythroplakia, or erythroleukoplakia.[1] Microscopically, these lesions may exhibit oral epithelial dysplasia, a histopathologic diagnosis characterized by cellular changes and maturational disturbances indicative of developing malignancy.[2] These lesions have been shown to be associated with excessive use of tobacco and alcohol.[3] Smoking and drinking are independently and synergistically associated with an increased risk of oral cancer, and the risks tend to increase with increased frequency of exposure.[1,4,5] Yet, there are few primary oral cancer and precancerous prevention programs aimed at moderating the use of tobacco and/or alcohol. Health promotion directed toward life-style factors (tobacco, alcohol, food, and environment) may thus be of critical importance in preventing oral pre-cancerous and cancer lesions.

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Oral cells can be obtained by different physical methods of scraping the surface of the mucosa. Different studies have reviewed the reliability of the different instruments used in oral exfoliative cytology (OEC). The ideal instrument used for making a good cytological smear should be easy to use in any location, cause minimum trauma, and provide an adequate and representative number of epithelial cells.[6] There are controversies related to the real value of this technique in the early detection of OSCC. The existence of false positives has been pointed out, showing high sensitivity and low specificity.[7] Nevertheless, some studies have shown better sensitivity and specificity for OEC in the early detection and diagnosis of OSCC.[8,9] Multiple studies analyzing the application of cytology in the detection of dysplastic lesions have been carried out with different results. In a Sudanese study, oral scrape smear cytological analysis has been proposed as a useful early diagnostic method for epithelial atypia, and, therefore, also for malignant oral lesions.[10] However, more independent studies analyzing its true validity and reliability, as well as its applicability in comparison with other techniques are necessary.

Nucleolar organizer regions (NORs) are located in the cell nucleoli during interphase. They are loops of DNA in which ribosomal RNA is encoded.[11] They are located in the acrocentric chromosomes 13, 14, 15, 21, and 22.[12] Their number per nucleus has been shown to be correlated with the rate of ribosomal RNA transcription, cell proliferation, and DNA ploidy.[11] DNA ploidy state (of chromosomal pairing), which reflects the risk of oral cancer, and categorized into (i) Anaploidy: high risk; (ii) Tetraploidy: intermediate risk; and (iii) Diploidy: low risk.[12] NORs can be visualized with the use of the AgNOR technique, which is a silver staining technique for showing NORs as black dots inside the nucleus when examined under a light microscope. This technique has been used to identify various benign and malignant lesions, to establish prognoses, and to determine the proliferative activity of cells.[13]

The purpose of this study was to assess cellular proliferative activity by means of AgNORs per nucleus quantification and cytological atypia (Pap.), and their role in the early detection of oral cancer. This study also aimed to demonstrate oral mucosal proliferative activity that might be induced by tobacco smoking, drinking alcohol, or eating peppers, and hot meals.

Materials and Methods

A total of 170 apparently healthy volunteers, aged between 15 and 62 years, of which 60 were tobacco smokers, 52 were habitual peppers and hot meal (hot food and drinks) consumers, 34 were alcohol users, and 24 did not indulge in smoking, alcohol, peppers and/or hot meals, were initially selected for this study. The age range in the exposed groups, OSCC, and non-exposed groups was 20–56, 40–60, and 15–40 years, respectively. Smokers, alcohol users and habitual peppers and hot meal consumers were referred to as the "exposed group," and those who abstained completely from smoking, alcohol, and peppers and hot meals were referred to as the "non-exposed group." Furthermore, 10 patients with OSCC were included as internal positive controls. The smokers comprised individuals who had smoked at least five filter cigarettes per day for the past year. The alcohol users comprised individuals who had drunk at least 250 ml/day for the past year. All hot meals consumers fulfilled the criteria of eating and/or drinking hot food more than three times a day. We measured the temperature of tea and some hot food and found it to be between 45 and 75°C. All the peppers consumers were accustomed to eating at least one type of hot pepper with each meal.

Patients with clinically apparent oral mucosal lesions, and previous benign or malignant lesions were excluded from this study. Also, individuals who had used Toombak (a locally made smokeless tobacco) or any kind of smokeless tobacco were not included in the study.

Ethical Consent

Each participant was asked to sign a written ethical consent during the interview, before the specimen was taken. The informed ethical consent form was designed and passed by the ethical committee of the faculty research board of the Faculty of Medical Laboratory Science at the University of Khartoum, Sudan.

Specimen Collection

Cytological smears were collected from buccal mucosa on the border of the tongue and the floor of the mouth. Each person was asked to rinse his mouth with saline solution for a minute before the specimen was collected. The area, from which the specimen was collected, was dried with a smooth wipe. The material was collected by a smooth brushing of the cheek mucosa, border of the tongue, and floor of the mouth. The material collected was smeared on a cleaned glass-slide and immediately fixed in 95% ethyl alcohol for 15 min. The smears were stained according to the Papanicolaou staining techniques described by Bancroft and Gamble[14] and the AgNOR staining method described by Ploton et al.[15]

Assessment of Cytological Atypia

Atypia was assessed cytologically by using the criteria described elsewhere.[10] The presence of two or more of the following features were consistent with atypia: nuclear enlargement associated with increase nuclear-cytoplasmic ratio, hyperchromatism, chromatin clumping with moderately prominent nucleoli, irregular nuclear membranes and bi or multi-nucleation, scant cytoplasm, and variation

in size and/or shape of the cells and nuclei. The percentages used below were calculated by counting atypical cells in five microscopic fields using 40× objective. Then the mean number of atypical cells was calculated and divided by the total number of cells to yield a percentage of atypical cells per field. If the atypical cells were 3–10%, this was considered slight and given a score value as follows: for 3–6% atypical cells, the score assigned was (+) and for 7–10% the score was (++). More than 10 atypical cells was consistent with marked atypia. The marked changes were scored as follows: 10–15% atypical cells, the score assigned was (+), which was correspondence to mild cytological atypia; 16–20%, was (++), which was equivalence to moderate cytological atypia, and 21%, was (+++), which was equivalence to severe cytological atypia.

AgNOR Mean Counts

All smears were analyzed horizontally from left to right and AgNORs were counted in the nuclei of the first 50 non-overlapping, well fixed, nucleated squamous cells. The AgNOR count was performed according to the technique described by Crocker et al.[16] The black dots inside the well-defined nuclei were counted; overlapping black dots were counted as one structure. To calibrate the examiner, the 10 smears obtained from the patients with OSCC, in addition to 10 smears from non-exposed controls, were counted three times in a non-consecutive way.[16] Mean numbers of AgNORs were then calculated.

Acute inflammation is recognized cytologically by cell degeneration, cloudy swelling, variation in the size of cells and the nuclei, the bloated appearance and the increase in leukocytes. Chronic inflammation, the smear shows leukocytes, histiocytes, and lymphocytes with plasma cells.

Fungal infections: *Candida albicans* is recognized by the filamentous mycelial elements and budding spores stain pinkish red.

Koilocytes (perinuclear halos and wrinkled, raisin like nuclei) show an enlarged nucleus with some degree of nuclear aberration.

Statistical Analysis

Statistical Package for Social Sciences (version 12) was used for analysis and to perform Pearson Chi-square test for statistical significance (P). The 95% confidence level, Odds Ratio (OR) and the 95% Confidence Intervals (CI) were used.

Results

Mean age was 26.2 ± 6.1 years among non-exposed and 37.6 ± 7.3 years among exposed. Male gender was 65% and female was 35%. Variable degrees of cytological atypia were identified among 10 individuals (Fig. 1). The 10 atypical changes were detected in smears obtained from 5 (8%) smokers, 2 (6%) alcohol consumers, 2 (4%) hot meals and peppers consumers, and the remaining one (4%) was a non-exposed person. Eight (80%) of these atypical smears were found with a mild degree of cytological atypia, and the remaining 2 (20%), which were detected among smokers were categorized as moderate cytological atypia. For atypia among tobacco smokers, alcohol consumers and, peppers and hot meals consumers, the adjusted OR and 95% CI were found to be 2 (0.2–16.8), 0.7 (0.07–7.4), and 0.3 (0.2–0.4), respectively. All smears taken from the patients with OSCC were demonstrated as having a severe type of cytological atypia.

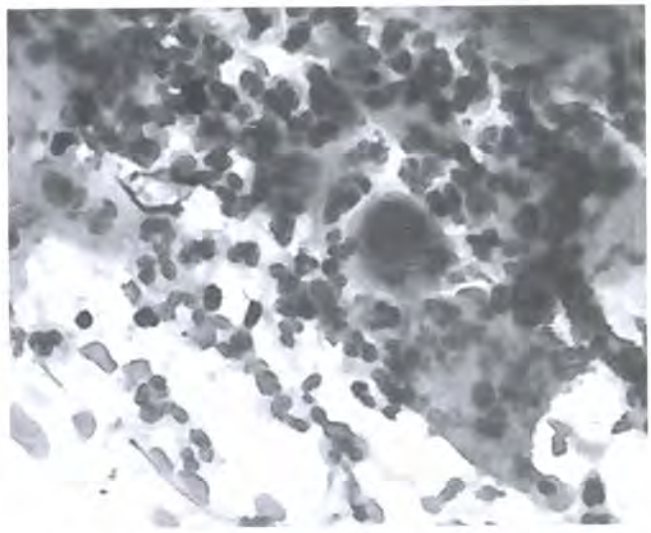

Fig. 1. The figure shows hyperchromatic nucleus surrounded by inflammatory cells, and red blood cells, the smear correspondence to moderate cytological atypia (Papanicolaou, ×40). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

With regard to the duration of smoking, 18%, 11%, and 66.7% of atypia were detected in the following duration ranges: 6–10 years, 11–15 years, and 16+ years, respectively. Notably, the two consumers of alcoholic beverages who had atypia had been drinking alcohol for more than 10 years.

Increased keratinization was detected among 27 (45%) of tobacco smokers, 17 (32.7%) peppers and hot meals consumers, 4 (11.8%) of those who consumed alcohol, and only 2 (3.7%) among those not exposed to any of these substances (Fig. 2). For atypia among tobacco smokers, peppers and hot meals consumers, and alcohol users, the adjusted OR and the 95% CI were found to be 2 (0.2–16.8), 0.9 (0.1–10.7), and 1.4 (0.1–16.8), respectively, as indicated in Table I.

AgNORs, which were visible as black dark-brown dots, were located within the nuclei of the cells (Fig. 3). In

smokers and alcohol users AgNOR numbers per nucleus varied from 1 to 8, whereas in the non-exposed group and the hot meals and peppers group the range was between 1 and 5.

The mean of AgNOR numbers per nucleus in the smoking group (3.68) was higher than that in the non-exposed group (2.00) and both the hot meals and peppers consumers (2.28); $P < 0.005$). Furthermore, the mean of AgNOR count in alcohol users was (2.82); ($P = 0.0001$); this reveals that, among the alcohol users there was a significant relationship.

However, the highest AgNOR mean count was found in smears showing cytological atypia. Eighty percent of the smears with cytological atypia were identified with 6 ± 2 AgNOR mean count, and this relationship was found to be statistically significant ($P = 0.0001$) as indicated in Table II. Smears taken from the patients with OSCC revealed 8 ± 2 AgNOR; $P < 0.0001$. Furthermore, higher inflammatory cells infiltrate was noticed among smokers, followed by both peppers and hot meals consumers, alcohol users, and the non-exposed group constituting 30 (50%), 10 (16.4%), 9 (26.5%), and 3 (12.5%), respectively, with a predominance of acute inflammatory cells infiltrate (polymorph nuclear leukocytes).

Cytological evidence of viral infections (kiolocytes) was detected among 7 (11.6%) of tobacco smokers and 6 (9.8%) peppers and hot meals consumers, and 3 (8.8%) alcohol users, respectively (Fig. 4). No evidence of viral infection was found among the non-exposed control group. For the features of viral infection among tobacco smokers, pepper and hot meals and alcohol adjusted OR and the 95% CI were found to be 0.9 (0.1–10.7), 1 (0.8–1.0), and 1.1 (1.0–1.2), respectively, as indicated in Table I. Fungal infection was detected among smokers, the alcohol users, and the non-exposed individuals, representing 2 (3.3%), 1 (2.9%), and 1 (4.2%) in that order (Fig. 5). No fungal infection was found among both pepper and hot meals consumers.

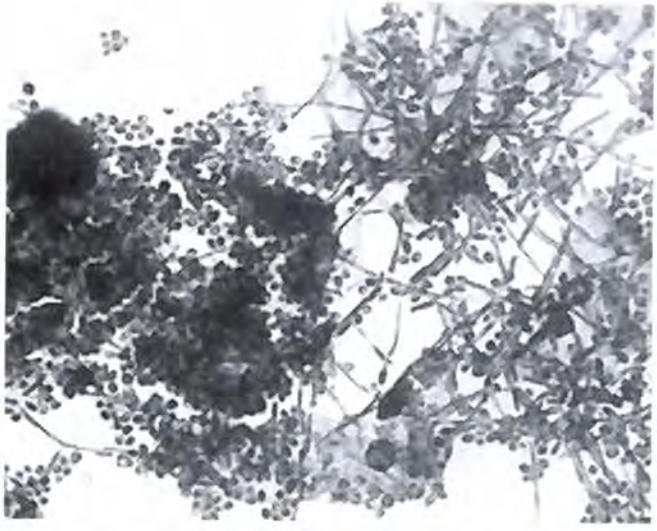

Fig. 2. Figure showing the silver nuclear dots. AgNOR staining, ×40. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Discussion

There are controversies related to the real value of OEC in the early detection of OSCC. The high frequency of false positive and negative results has been stated as a drawback in OEC.[7] While some studies have evaluated the role of OEC in comparison with biopsy in this respect and have reported similar results, other studies have reported conflicting results.[17] OEC was found reliable in the diagnosis of oral hairy leukoplakia.[18] Although OEC has some disadvantages that require continued refinements, it still remains a simple and useful method for screening oral cancer in remote areas lacking advanced diagnostic facilities. However, the strong correlation between cytological atypia and elevated AgNOR in this study suggests that OEC may emerge as a reliable and applicable technique for screening populations at high risk.

AgNOR counts have been of great value in recognizing various benign and malignant lesions, to establish prognoses and to determine the proliferative activity of cells.[13] In this study, to keep our count more reliable, we counted AgNORs of a total of 50 cells for each smear. Although numerous studies have demonstrated AgNOR numbers in

Table I. Difference in Mean of AgNOR Counts Among Studied Groups

Subjects total no.		*Cytological atypia*		*Kiolocytosis*		*Keratinization*		*Inflammation*	
Exposure	*No.*	*No.*	*OR 95% CI*	*No.*	*OR 95% CI*	*No.*	*OR 95% CI*	*No.*	*OR 95% CI*
No-exposure	24	1		0		2	2	3	0
Peppers and hot meals	52	2	0.9 (0.1–10.7)	6	0.9 (0.8–1.0)	17	5 (1.1–25.4)	10	1.7 (0.1–6.7)
Alcohol consumers	34	2	1.4 (0.1–16.8)	3	1.1 (1.0–1.2)	4	1.5 (0.3–8.7)	9	2.5 (0.1–10.5)
Smokers	60	5	2 (0.2–16.8)	7	0.9 (0.1–10.7)	27	9 (1.9–41.7)	30	7 (1.9–25.9)
Total	170	10	0	16	0	50	0	52	0

OR, odd ratio; CI, confidence interval.
Mild atypia assesses the degree of cytologic atypia (according to atypical features), hence, mild dysplasia assesses the degrees of cytological atypia (in basilar and parabasilar layers) and architectural changes.

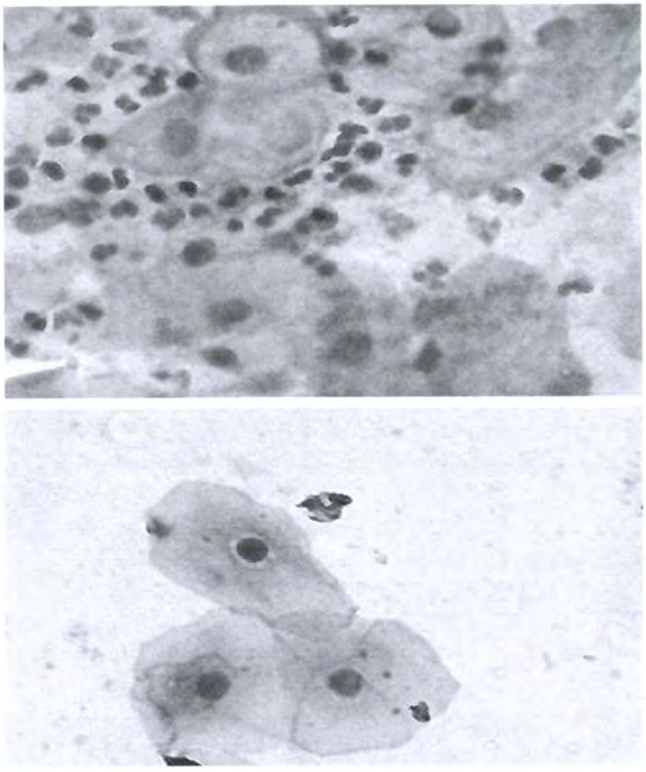

Fig. 3. *Candida* species displaying pseudo hyphae (bamboo form), Papanicolaou, ×10. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Table II. Morphological Changes Among Studied Groups

Subjects	*NORs range*	*NORs mean*	*P <*
Non-exposed	1–5	2.00	
Peppers and hot meals	1–5	2.28	0.005
Alcohol consumers	1–8	2.82	0.001
Smokers	1–8	3.68	0.0001
OSCC	3–9	6.38	0.0001
Mild atypia	2–8	4.50	0.0001
Moderate atypia	2–8	7.00	0.0001
Kiolocytosis	1–5	2.58	0.001
Inflammation	1–8	2.88	0.001

normal, reactive cells and in cells of premalignant and malignant tumors in histopathological tissues, fewer studies have demonstrated AgNOR in exfoliative cells.[13,19] AgNOR counts from a tissue section would be nearly two times lower than AgNOR counts of a cytological smear. This is because the criteria for AgNOR count in histological sections differ from the criteria for cytological smears.[20]

Although, many studies have performed AgNOR count in oral mucosa with benign, premalignant, and malignant tumors (a few of which were found in those exposed to tobacco smoking and alcohol), we didnot find any study that has assessed normal oral mucosa exposed to peppers or hot food and drink consumption. Most previous studies that have assessed oral mucosal lesions by AgNOR

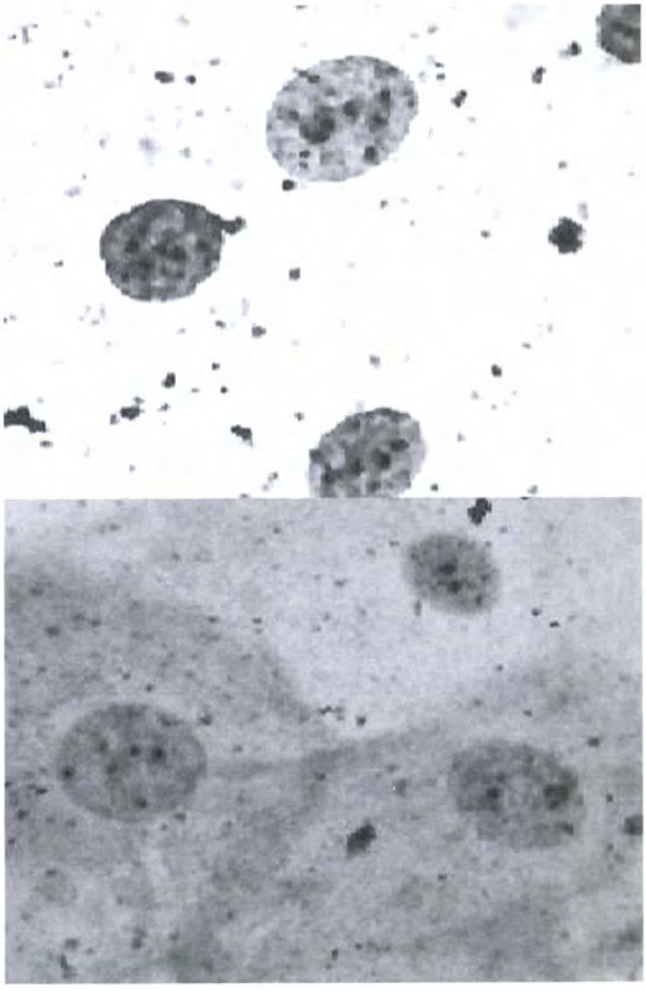

Fig. 4. The figure showing keratinization (Papanicolaou, ×10). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

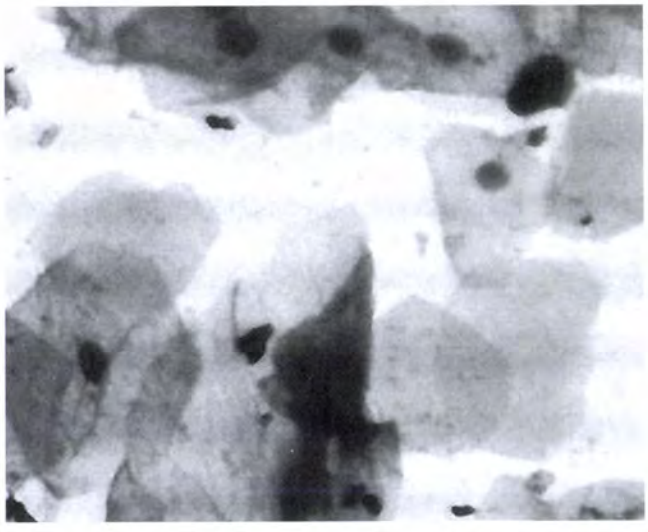

Fig. 5. The figure showing kiolocytes (perinuclear hallow) with inflammatory infiltrate (Papanicolaou, ×40). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

focused solely on the AgNOR count, and very few studies have added keratinization of the oral mucosal cells besides AgNOR counts.[13,19] To the best of our knowledge, this is the first study that includes epithelial atypia, keratinization, and AgNOR counts of oral mucosal cells exposed to smoking, alcohol peppers and hot meals, and which compares all the parameters.

Several correlated studies have reported an increase in the mean AgNOR count of smokers' oral mucosa.[13,19] In the present study, the mean AgNOR count of the smokers is significantly higher than the non-exposed group, which corroborates a similar finding in a study by Einstein and Sivapathasundharam.[21] It can also be seen that the mean AgNOR count of alcohol use is comparatively higher than the non-exposed group and those exposed to peppers and hot meals, as shown in Table I.

The results of both AgNOR counts and cytological atypia show that cellular abnormal changes are significantly higher in smokers and slightly higher among alcohol users. This may be attributed to the fact that production of malignant cells requires cell proliferation and DNA activity.[22] Although the great majority of our study subjects (92.8%) were younger than the age of 40 years, there was a significant difference between smokers and non-exposed individuals in the mean AgNOR count. We believe this is due to the variation in mean age between the exposed and non-exposed groups (mean age was 26.2 $\pm$ 6.1 in the non-exposed group and 37.6 $\pm$ 7.3 in the exposed groups), which may add some sort of limitation to our findings.

Notably, mean AgNOR counts of both exposed and non-exposed groups are somewhat lower or relatively similar to many previous cytological studies.[23,13,19] This variation may be due to minor differences in counting and calculating techniques or it can be a result of our technique of collecting cytological material from three different sites (mixed cells from buccal mucosa, the border of the tongue, and the floor of the mouth). It was reported that mean areas of AgNORs per nucleus in smokers is the highest in the mucosal cells of the floor of the mouth in comparison to the border of the tongue and buccal mucosa. It is also well established that the most frequent site of OSCC is the floor of the mouth.[16] However, we did not stick to the floor of the mouth, because we were attempting to cover the effect of all three exposures (smoking, alcohol, and peppers and hot meals).

Smoking and Alcohol

Our results show that smoking is associated with an increased risk of developing cytological atypical changes that might eventually result in oral cancer. Several studies have reported similar findings,[1,4,5] and that the risks increase with increased duration of smoking. Although, the results of the current study support that the presence of atypia was associated with smoking duration, but the degree of atypia was not different based on smoking duration. This requires further assessment in a large population with proved cytological atypical changes. Increased inflammatory cells, which infiltrated were observed in this study; this increase might be a result of epithelial irritation caused by smoking. Such a finding was previously reported.[24]

Although the morphologic criteria are not conclusive for infection, the association between viral infection and tobacco smoking is well established as oral mucosa is exposed to a number of viruses (e.g. Human Papilloma virus (HPV), Herpes simplex (HSV), the Epstein Barr Virus, etc).[25,26]

Cigarette smoke has effects on saliva, oral commensal bacteria, and fungi, mainly *Candida*, which causes oral candidosis, the most common opportunistic fungal infection in man[27] and how cigarette smoke affects oral *Candida* is still controversial.

With regard to keratinization, it was found that smokers with clinically normal mucosa show a greater percentage of keratinized cells and a greater nucleolar activity, suggesting that cigarette smoking influences the cellular activity of the mucosa.[19]

Although drinking alcohol has showed little variation compared to smoking in the current study, several studies have reported a relationship between drinking and the risk of both oral cancer and pre-cancerous and a disposition toward it.[5,28] Although our present data do not provide evidence that the duration of alcohol intake is an important factor in the development of cytological atypia, it was previously reported that increasing alcohol consumption over a longer period was associated with an increased risk of oral cancer.[28] The presence of keratinization supports the fact that exposure to alcohol affects the pattern of maturation in oral mucosal cells.[29] Our current findings suggest further assessment of the duration of drinking and dose consumption. Smoking and drinking alcohol may have their greatest impact on oral carcinogenesis prior to malignant transformation, although the role of alcohol does not appear to be strongly evident in this study.

Peppers and Hot Meals

A hot red pepper (Capsicum) is the most common species used in food throughout the world. Because of the burning sensation caused by capsaicin when it comes in contact with mucous membranes, it is commonly used in food products to give them added spice or "heat."[30] For more than a century, capsaicin (8-methyl-N-vanilly-6-noneamide) active ingredient of pepper has captured the attention of many investigators, because its biting and burning properties suggest it could have a physiological effect. Histopathological changes observed in the gastrointestinal tract and liver have demonstrated cellular damage under light microscopy.[31] One epidemiological

study indicated that chili pepper consumption may be a strong risk factor for gastric cancer in populations with high intakes of chili pepper; however, other studies did not find this association.[32] Although, it has been well established that keratinization is associated with epithelial proliferative activity particularly in cases of tobacco use, to the best of our knowledge. No study has concluded that peppers and hot meals increased keratinization. This study might be the first to report in this matter, but further assessment is important.

In conclusion, our results support that smoking is severe risk factor for developing oral mucosal proliferative lesions, and exfoliative cytology can be a suitable method for the demonstration of oral mucosal lesions. Although hot meals and peppers donot seem to be a risk for oral mucosal proliferation, they increase the potency of keratinization and viral infection. Because of lack of studies on the role of exfoliative cytology in diagnosis and screening of oral cancer and precancer from the Sudan, further studies using histopathology as a gold standard are recommended to generate the sensitivity and specificity of this method.

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Cervical Cytology in Patients With Postmenopausal Bleeding

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In this study, the role of cervical cytology in the diagnosis of post or perimenopausal (PM) bleeding was explored. A total of 135 patients with PM bleeding were selected. In all these cases both conventional cervical cytology and histopathology follow up were available. The commonest causes of postmenopausal (PM) bleeding with abnormal histopathology were squamous cell carcinoma of cervix (14), endocervical polyp (13), endometrial adenocarcinomas (13) and simple hyperplasia without atypia (13). There were a total 13 cases of endometrial adenocarcinoma and cervical smears of these cases were reported as high grade squamous intra epithelial lesion (1), presence of endometrial cells (4), unsatisfactory due to low cellularity (2), and within normal limit (6). In brief, endometrial carcinoma and hyperplasia are the predominant causes of PM bleeding due to endometrial pathology. The presence of benign looking endometrial cells with PM bleeding always indicates a careful work up to exclude endometrial pathology. Diagn. Cytopathol. 2010; 38:496–498.

Key Words: postmenopausal bleeding; endometrial cells; cervical smear

There are multiple causes of postmenopausal (PM) and peri-menopausal vaginal bleeding.[1] Several investigative techniques are presently available to detect the causes of the bleeding in these patients.[2] Endometrial curetting is often routinely carried out to find out the exact causes of the bleeding. Conventional cervical cytology is effective in the detection of both premalignant and malignant lesions of cervix.[3–5] However, its role in the diagnosis of postmenopausal and peri-menopausal vaginal bleeding in relation to endometrial pathology is still not clear.[6,7] In this article the role of cervical cytology in the diagnosis of PM bleeding has been explored.

Materials and Methods

This was a retrospective study of nine months period. A total of 4000 conventional cervical smears were studied in this period. A total of 223 patients had a complaint of post or peri menopausal bleeding. Rest of the patients was the part of routine screening. Follow up histopathology was available in 135 patients and only these cases were selected in this study. The cervical smears of these patients were reported according to Bethesda system, 2001.[8] All the smears with either positive histology or cytology were reviewed by two independent cytologists (J.K. and P.D.). The cervical cytology smears were finally correlated with the available histology.

Result

The cytology and histology correlation is highlighted in Table I. Abnormality in cervical cytology smear was noted in 24 cases. Adequate and normal cytology smear was labeled in 104 cases. Seven cases had unsatisfactory cytology smears. The most frequent causes of postmenopausal (PM) bleeding were due to squamous cell carcinoma of cervix (14), endocervical polyp (13), endometrial adenocarcinomas (13) and simple hyperplasia without atypia (13) on histology. No abnormality in histopathology was noted in 68 cases (Table I).

Out of the 14 histopathology proven cases of squamous cell carcinoma (SCC), on cytology eight cases were reported as invasive SCC, three cases were reported as ASC-H (atypical squamous cell-High grade) and rest of the three cases were reported as unsatisfactory for scanty cellularity obscured with blood. One case of carcinoma in situ/ CIN3 (cervical intraepithelial neoplasia) was reported as SCC on cytology smear. Three cases were reported as

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Table I. Histological Correlations of the Cases with PostMenopausal Bleeding

		Cervical cytology smear								
Histology	*No.*	*SCC*	*HSIL*	*LSIL*	*ASCUS*	*ASC-H*	*AGCUS*	*AN*	*EM cell present*	*US*
SCC	14	8				3				3
CIN3	1	1								
CIN2	1									1
CIN1	1			1						
ADCA endometrum	13		1					6	4	2
Leiomyosa Rcoma	1									1
Endocervical Polyp	14			1	1			12		
Endometrial Polyp	3							3		
SH, no atypia	13							13		
Disordered proliferation	6							6		
Others, no abnormality	68			1	2		1	64		
Total	134									

SCC, squamous cell carcinoma; HSIL, high grade squamous intraepithelial lesion; LSIL, low grade squamous intraepithelial lesion; CIN, cervical intraepithelial neoplasia; ADCA, adenocarcinoma; ASCUS, atypical squamous cell undetermined significance; AGCUS, atypical glandular cell undetermined significance; EM, endome trial; SH, simple hyperplasia; AN, adequate normal; US, unsatisfactory; ASC-H, atypical squamous cell, high grade lesion can not be excluded.

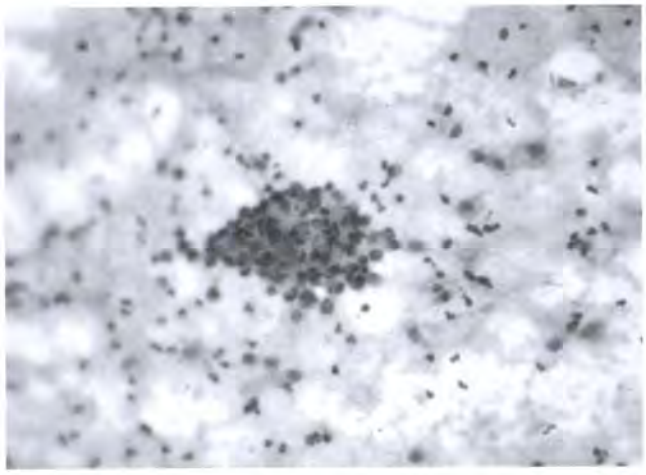

Fig. 1. Cervical smear showing endometrial cells in a case of endometrial carcinoma. (Papanicolaou, ×440). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

LSIL (Low grade squamous intraepithelial lesion) on cervical smears. Histology of these cases revealed as CIN 1(1), endocervical polyp (1) and no abnormality (1). There were a total of 13 cases of endometrial adenocarcinoma. One of the cases showed clusters of cells with moderate nuclear enlargement and pleomorphism. These cells were interpreted as cells of HSIL (high grade squamous intraepithelial lesion). The cervical smears of the remaining cases reported as within normal limit (6), unsatisfactory (2) and the presence of benign looking endometrial cells (4) (Fig. 1). The four cases with benign looking endometrial cells were followed up by fractional curetting and subsequently underwent hysterectomy. None of the cases of endometrial adenocarcinoma showed cervical involvement on histology. The cases of endocervical and endometrial polyp, and hyperplastic endometrium did not show any abnormality on cervical smears.

Discussion

In the present study we have assessed the role of cervical cytology in postmenopausal patients with bleedings. The predominant causes of PM bleeding were due to endometrial pathology such as endometrial carcinoma (13) and simple hyperplasia without atypia (13), along with large number of cervical lesions such as SCC (14) and endocervical polyps (14). Only a small number of cases had cervical dysplasia (3).

The presence of benign looking endometrial cells on cervical smears in postmenopausal bleeding cases may be often noted in endometrial carcinoma. It has been shown that up to 20% cases of benign endometrial cells on cervical smears are associated with endometrial carcinomas.[9–12] In the present study we noted benign looking endometrial cells in four cases and abnormal cells in one case out of 13 cases of endometrial adenocarcinomas on the cervical smears. Ashfaq et al. showed that the presence of endometrial cells on Papanicolaou smears in postmenopausal women did not reveal any significant pathology in clinically unsuspected patients.[13] In the present study only the cases of postmenopausal bleeding were included and the presence of endometrial cells in the symptomatic patients was considered as significant.

In brief, endometrial carcinoma and hyperplasia are the predominant causes of PM bleeding due to endometrial pathology. The presence of benign endometrial cells in PM bleeding always indicates detailed work up to exclude endometrial pathology.

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Diagnostic Reliability of FNAC for Salivary Gland Swellings:

A Comparative Study

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A prospective study was conducted to see the sensitivity, specificity, and accuracy of fine needle aspiration cytology (FNAC) for 100 salivary gland swellings in comparison with biopsy. These randomized samples were submitted and reported at the department of pathology, Allama Iqbal Medical College, Lahore. The male to female ratio was 1:1.5. Ages of the patients ranged from 8.5 to 58 years with mean age 33.39 ± 12.37 years. Maximum number of lesions was found in age group between 21 and 40 years. Parotid gland was involved in 68%, submandibular gland in 30%, and minor salivary glands in 2% patients. Sublingual gland was not involved in any of our subjects. There were 14% cases of non-neoplastic lesions and 86% cases of neoplastic lesions on biopsy. Non-neoplastic lesions included 12 cases of inflammations (three cases of granulomatous inflammation and nine cases of nonspecific chronic inflammation) and two cases of inclusion cysts. Among neoplastic lesions, biopsy revealed 68 cases of benign neoplasia and 18 cases of malignant neoplasia. Non-neoplastic lesions did not show any difference in diagnosis by both techniques. FNAC misdiagnosed four malignant and one benign lesion. Sensitivity, specificity, positive predictive value, and negative predictive value of FNAC for benign neoplastic lesions were 98.52, 87.05, 94.36, and 96.55%, respectively, whereas for malignant neoplastic lesions they were 77.77, 98.78, 93.33, and 95.29%, respectively. In conclusion, FNAC is found to be a highly sensitive and specific technique for diagnosis of most of salivary gland swellings, except for malignant neoplastic lesions where its sensitivity is intermediate. We strongly recommend that FNAC should be adopted as an initial investigation for all salivary gland swellings. Diagn. Cytopathol. 2010;38:499–504.

Key Words: FNAC; biopsy; salivary glands; salivary gland swellings; benign lesions; malignant lesions

The use of fine needle aspiration biopsy for the diagnosis of parotid gland masses is questioned because of low sensitivity and the generalized belief requiring surgery for most parotid masses.[1] However, the fine needle aspiration cytology (FNAC) of suspected salivary gland lesions has an established role in preoperative diagnosis and management of patients. It has acquired an edge over incisional biopsy and frozen section.[2–6]

A mass in the salivary gland region often presents a diagnostic challenge with regard to its site of origin, biologic behavior, and tissue specific diagnosis. Careful history and clinical examination are required with specific reference to the duration of disease.[7–9]

FNAC speeds up the diagnostic process and it is a valuable adjunct to preoperative assessment in patients with parotid masses.[10] It needs to be emphasized that genuine problems do occur in typing of salivary gland neoplasms.[11,12] One must be cognizant of pattern memory and the anatomic ambiguity that arise in FNAC of salivary glands to achieve a high degree of diagnostic accuracy and clinical utility that FNAC of salivary gland offers.[11–14]

FNAC is a simple and rapid technique. No expensive instruments are needed.[5] It is a safe and economical biopsy method that is widely applicable to masses as a first-line procedure. It separates neoplasm from inflammatory lesions and reduces the need for surgery by as much as a third. However, successful FNAC demands high specimen quality and experience on the part of both the aspirator and the pathologist.[15]

Despite the relative rarity of salivary gland tumors, if established diagnostic criteria are present and strictly observed, the great majority of the common variants of the non-neoplastic and both the benign and the malignant

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Table I. Distribution of Subjects by Age, Sex, and Site of Lesion

	Sex (male to female ratio 1:1.5)			*Site of lesion*		
Age (years)	*Male*	*Female*	*Total*	*Parotid*	*Submandibular*	*Minor salivary gland*
1–10	0	2	2	1	1	0
11–20	4	6	10	7	3	0
21–30	10	19	29	20	8	1
31–40	18	23	41	30	10	1
41–50	8	6	14	8	06	0
51–60	0	4	4	2	2	0
Total	40 (40%)	60 (60%)	100	68 (68%)	30 (30%)	2 (2%)

salivary gland tumors can be diagnosed with a high level of accuracy. There remain a proportion of problem cases because of the rarity of the lesions, and in these circumstances, the uncertainty must be conveyed to the surgeon openly, with a few suggested differential diagnoses.[4]

The aim of this study was to investigate the role of FNAC in the diagnosis of salivary gland swellings with respect to sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), and accuracy (the diagnostic reliability) in comparison with biopsy.

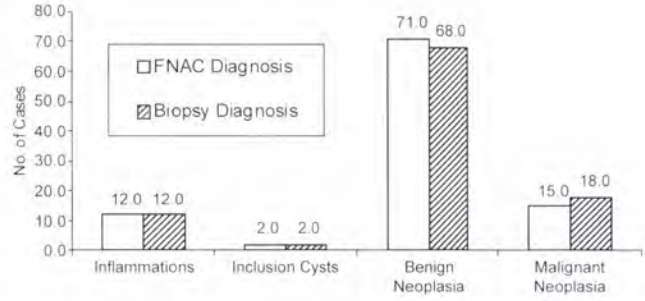

Fig. 1. Comparision of four major groups of salavary glands lesions by both techniques.

Materials and Methods

A comparative study was performed on 100 randomly selected patients with salivary gland swellings who attended the Department of Pathology Allama Iqbal Medical College (AIMC), Lahore, during February 2000 to January 2002. Patients presenting with acute inflammatory symptoms, such as pain, tenderness, or raised local temperature, were excluded from the study.

The FNAC was performed using a 23-gauge needle. We used 5 cc disposable syringes of Becton and Dickinson, Pakistan, for each prick and for each patient. No local anesthesia was used. Aspirate was taken once or thrice depending on the size of the lesion. Cellular material was aspirated into a syringe and expelled onto slides. Three to four slides were prepared for each patient. A small- or medium-sized drop of the aspirate was put near the frosted end of a slide that was placed on a table. A second slide was used to spread the aspirated material in the same manner used to prepare a peripheral blood smear. The smears were fixed quickly before drying with 95% ethanol, and a cytological diagnosis was rendered on H&E staining. These patients were followed up for surgical biopsies to compare the FNAC results.[16,17]

After undergoing appropriate surgical procedures of variable extent, biopsy specimens of the patients were collected and processed. Tissues were sliced using sharp knife, and tissue sections measuring 3–4 mm were taken and fixed in 10% formal saline for 4–6 hours and processed in an automatic tissue processor for paraffin embedding. The tissue sections were stained by standard H&E staining procedure. Microscopy of all the stained slides was performed in the Department of Pathology, AIMC, Lahore, by two expert histopathologists.

Results

Of 100 patients, 60/100 (60%) were females and 40/100 (40%) were males. the male to female ratio was 1.0:1.5. Ages of the patients ranged from 8.5 to 58 years with mean age 33.39 ± 12.37 years. Maximum number of lesions was found in age group between 21 and 40 years.

Parotid gland, 68/100 (68%), was the commonest site of involvement followed by submandibular gland, 30/100 (30%), and minor salivary glands, 2/100 (2%). No sublingual swelling was observed in our patients (Table I).

Diagnoses of salivary gland lesions made on FNAC were compared with the reports of biopsies, taking the latter as gold standard (Fig. 1). There were 14 of 100 (14%) cases of non-neoplastic lesions comprising chronic nonspecific inflammation in 9 of 100 (09%), granulomatous inflammation in 3 of 100 (3%), and inclusion cysts in 2 of 100 (2%). Inflammatory lesions and inclusion cysts did not show any difference in diagnosis by both techniques. Benign neoplasms were 71% vs. 68%, whereas malignant neoplasms were 15% vs. 18% on FNAC and biopsy, respectively (Table II).

For neoplastic lesions on FNAC, 71 of 100 (71%) cases showed features of benign neoplasms, including pleomorphic adenoma in 66 of 71 (92.95%), oncocytic adenoma in 2 of 71 (2.81%), adenolymphoma in 2 of 71 (2.81%), and lipoma in 1 of 71 (1.40%). Fifteen (15%) cases were diagnosed as malignant neoplasm constituting mucoepi-

Table II. Lesions That Showed Cytohistological Disagreement

	On FNAC	*On Biopsy*
1.	Pleomorphic adenoma	Mucoepidermoid carcinoma
2.	Pleomorphic adenoma	Mucoepidermoid carcinoma
3	Pleomorphic adenoma	Adenoid cystic carcinoma
4	Pleomorphic adenoma	Pleomorphic adenoma 'with malignant change'
5.	Adenoid cystic carcinoma	Pleomorphic adenoma

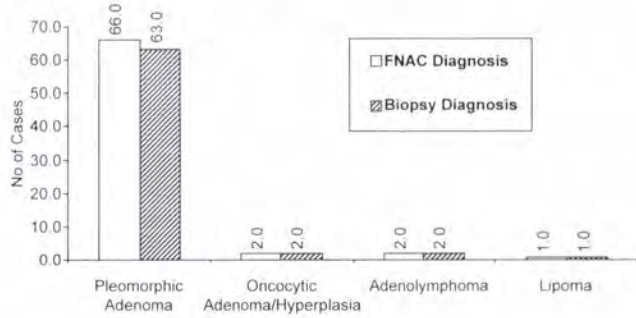

Fig. 2. Comparision of morphological types of benign neoplastic lesions by both techniques.

dermoid carcinoma in 7 of 15 (46.6%), acinic cell carcinoma in 3 of 15 (20%), adenoid cystic carcinoma in 2 of 15 (13.3%), adenocarcinoma in 2 of 15 (13.3%), and non-Hodgkin lymphoma in 2 of 15 (13.3%; Fig. C-1).

Histopathology of neoplastic lesions showed that, of four pleomorphic adenomas on FNAC, two were mucoepidermoid carcinoma, one was pleomorphic adenomas with malignant change, and one was adenoid cystic carcinoma, whereas one adenoid cystic carcinoma on FNAC was found to be pleomorphic adenoma on biopsy (Figs. 2–3 and Fig. C-1; Table II).

After comparing FNAC diagnoses of different salivary gland lesions with their histological diagnoses, true-positive, false-positive, true-negative, and false-negative cases were determined for each group of salivary gland lesions. The diagnostic reliability of FNAC for different groups of salivary gland lesions was calculated by applying appropriate formulae. Table III shows a comparison of diagnostic reliability criteria (i.e., sensitivity, specificity, PPV, NPV, and accuracy) of FNAC for salivary gland lesions (Table III).

Discussion

FNAC is being increasingly used for the diagnosis of a variety of benign and malignant lesions, including salivary gland lesions, and is often rendered an unequivocal diagnosis.[18–20] It is a rapid, safe, reliable, and cost-effective technique for evaluation of major salivary gland lesions.[21,22] Knowledge of cytologic overlaps and pitfalls on salivary gland fine needle aspiration, as well as clinical and radiologic features, may help clinicians arrive at the appropriate diagnosis and reduce false interpretations. Several clinically important pitfalls with nonsalivary tumors of jaw and skin are demonstrated in our series.[23]

In our study, the ages of the patients ranged from 8.5 to 58 years with mean age 33.39 ± 12.37 years. The maximum numbers of cases (58%) was seen between the ages of 21 and 40 years. This age distribution is almost the same as given by other studies, which also show higher frequency in adults and middle-aged people.[24–27] Male to female ratio was 40% vs. 60%. The results of previous studies regarding sex distribution of salivary glands swellings are variable. Some of the studies show a female preponderance, whereas others show slight excess in males, but sex difference has not been statistically significant.[25,27,28]

Our study shows that parotid gland is the most common site of involvement. These results are in line with the existing literature that also gives a higher frequency of parotid glands involvement.[28–33]

According to our study, inflammations are not common lesions in salivary glands (12%), and these findings are not consistent with a previous study by Goh and Sethi,[34] who showed that inflammations constitute the commonest pathology (53.76%) in salivary gland.

In our study, the histopathology revealed 68% benign neoplasia and 18% malignant neoplasia showing that benign neoplasia are much more common than malignant ones. These results are quite close to those obtained in previous studies, i.e, 80% benign vs. 20% malignant[35] and 75.9% benign vs. 14.6% malignant.[36]

Pleomorphic adenoma was the most common benign lesion seen in our study (92.64%). This finding is supported by many previous studies.[25–27,37] Oncocytic adenoma are 1–3% of neoplasia,[20,27] which is comparable to our study (2.94%). Adenolymphoma is the second most common benign salivary gland tumor next to pleomorphic adenoma,[38] which is contrary to our finding of 2.94%. Lipoma are found rarely in salivary gland.[39]

The frequency of various malignant neoplasia in previous studies vs. our study is variable, i.e., mucoepidermoid carcinoma 15% vs. 50%, acinic cell tumor 3–5% vs. 16.6%, adenoid cystic carcinoma 5% vs. 11.5%, adenocarcinoma 5–10%[25,40] vs. 11.11%, and malignant lymphoma 2% vs. 5.5%.[40]

Five neoplasitc lesions showed cytohistological disagreement on FNAC and biopsy. Of the four pleomorphic adenoma diagnosed on FNAC, two turned out to be mucoepidermoid carcinoma, one pleomorphic adenoma with malignant change, and one adenoid cystic carcinoma, whereas one case of adenoid cystic carcinoma on FNAC was found to be pleomorphic adenoma on biopsy. This might be due to great variation in morphology of salivary

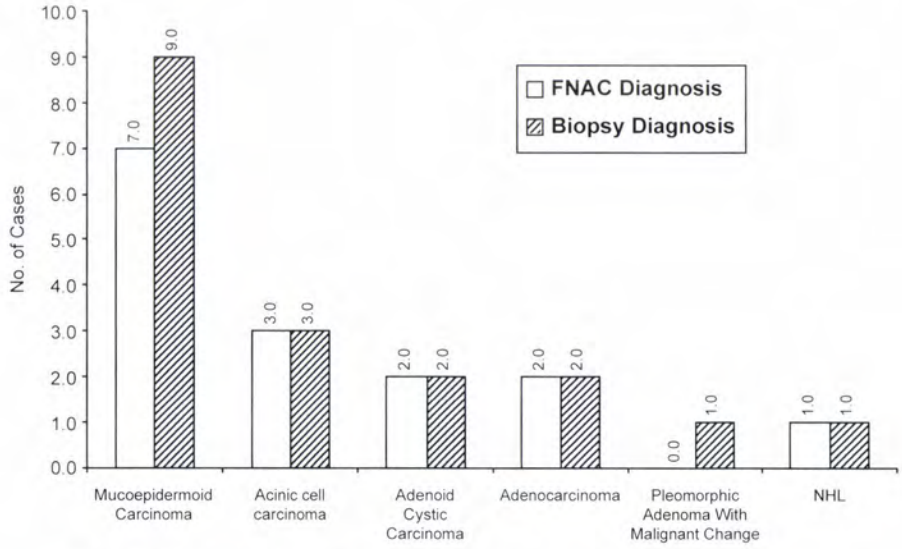

Fig. 3. Comparision of morphological types of malignant lesion by both techniques.

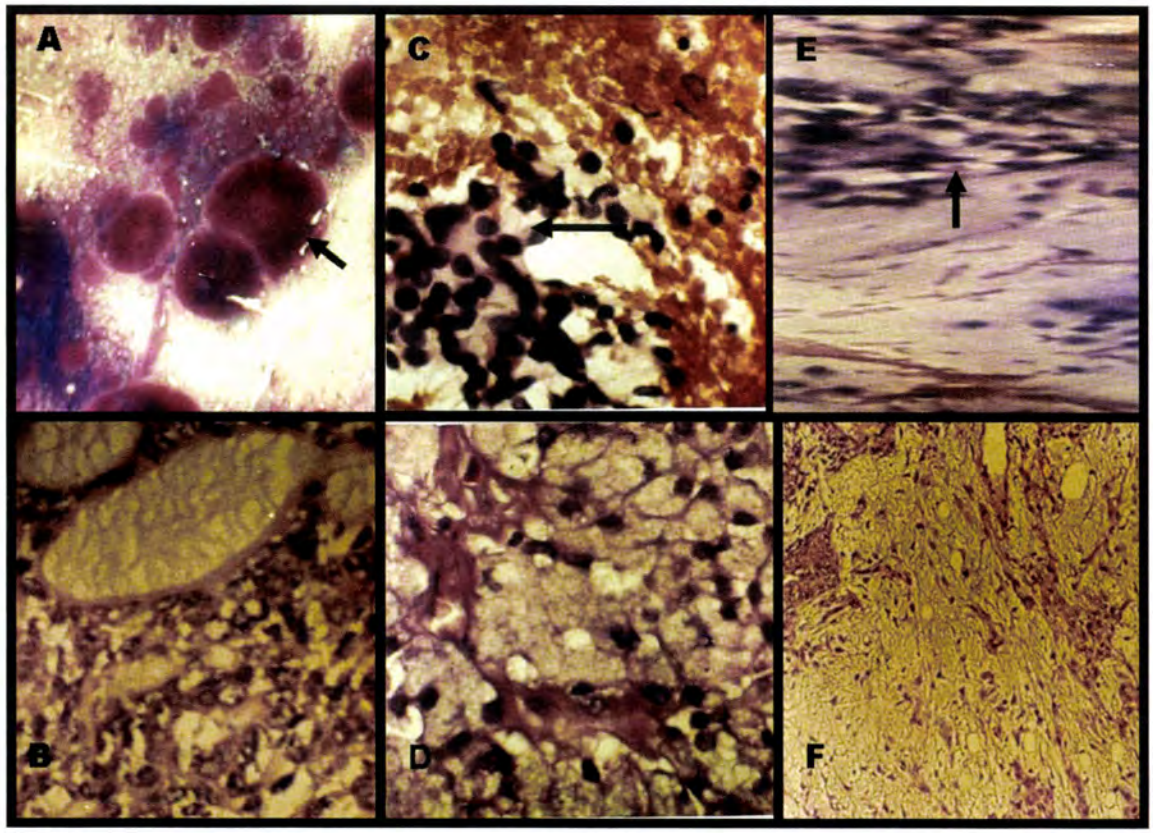

Fig. C-1

Fig. C-1. A: Photomicrograph (high-power view H&E 40×; cytology) of adenoid cystic carcinoma showing basaloid cells surrounding clear spaces or hyaline globules (arrow), **B**: Photomicrograph (H&E, 40×; histopathology) of adenoid cystic carcinoma showing tumor cells forming cribriform pattern. **C**: Photomicrograph (high-power view H&E 40×; cytology) of acinic cell carcinoma showing loose aggregates of round and polygonal tumor cells of varying sizes with finely granular vacuolated cytoplasm and eccentric nuclei. Bare nuclei show coarse chromatin, prominent nucleoli and nuclear membrane irregularities (arrow). **D**: Photomicrograph (H&E 40×; histopathology) of acinic cell carcinoma showing tumor cells forming cords and glandular pattern. **E**: Photomicrograph (H&E 40×; cytology), of pleomorphic adenoma showing epithelial cells, intermediate cells and myoepithelial cells against bluish translucent myxoid background (arrow). **F**: Photomicrograph (H&E, 40×; histopathology) of pleomorphic adenoma showing groups of benign looking epithelial cells and myoepithelial cells against myxoid backgraound.

Table III. Comparison of Diagnostic Reliability of FNAC for Different Groups of Salivary Gland Lesions With Respect to Biopsy

Diagnostic reliability criteria	*Inflammations (%)*	*Inclusion cysts (%)*	*Benign neoplasia (%)*	*Malignant neoplasia (%)*
Sensitivity	100	100	98.52	77.77
Specificity	100	100	87.05	98.78
Positive predictive value	100	100	94.36	93.33
Negative predictive value	100	100	96.55	95.29
Accuracy	100	100	95.00	95.00

gland lesions on FNAC, the diagnosis of which therefore requires a high level of experience for diagnoses.[41]

In our study the sensitivity, specificity, positive and NPVs, and accuracy of FNAC for non-neoplastic lesions, i.e., inflammatory lesions and inclusion cysts, are 100% when compared with biopsy. One previous study[4] gives a 100% diagnostic agreement of FNAC and biopsy for inflammatory lesions, whereas another study[19] shows 77% sensitivity and 80% specificity of FNAC for non-neoplastic lesions. FNAC is useful in the diagnosis of salivary gland swellings, especially in benign conditions with a sensitivity of 90% and a specificity of 100%.[7–9,42]

In our study, FNAC misdiagnosed four malignant and one benign neoplastic lesions. Therefore, sensitivity, specificity, positive and NPVs, and accuracy of FNAC for benign and malignant neoplasia were not 100%. These values are comparable with previous studies.[1,3,4,23,43,44] From the results of this study and their comparison with other studies, it may be inferred that the diagnostic reliability of FNAC, in comparison with biopsy, is equivalent to that of biopsy for non-neoplastic lesions, whereas it is high for benign neoplastic and intermediate for malignant neoplastic lesions. Therefore, it is suggested that FNAC may be used as a reliable tool for the diagnosis of most of the salivary gland swellings.

Conclusion

FNAC is found to be a highly sensitive and specific technique for diagnosis of most of salivary gland swellings, except for malignant neoplastic lesions where its sensitivity is intermediate. We strongly recommend that FNAC should be adopted as an initial investigation for all salivary gland swellings.

Acknowledgments

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"Strap Cells" in Primary Prostatic Rhabdomyosarcoma in a Child

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A 21-month-old previously healthy boy presented to the emergency room with abdominal pain, distension, and decreased urination of one day duration. His past medical history and family history were unremarkable. Computerized tomography scans showed a large 6.5 × 6.2 cm heterogeneous, mildly enhancing, noncalcified, and smooth contoured mass interposed between the bladder and rectum, near the posterior urethra. No lymphadenopathy, hydronephrosis, hydroureter, bladder masses, or distant metastases were identified. Fine needle aspiration (FNA) of the pelvic mass was performed under ultrasound guidance using a 22 gauge Chiba needle under general anesthesia.

Both air-dried and wet-fixed smears were prepared from FNA and stained with Diff Quik and Papanicolaou stains, respectively. The smears were highly cellular and revealed mostly single cells with few large and loosely cohesive tissue fragments. Two main types of single cells were identified—predominantly primitive, small round blue cells with round to oval nuclei, finely granular, hyperchromatic chromatin, inconspicuous nucleoli, and scant wispy cytoplasm, as well as scattered large "tadpole" or "ribbon-shaped" cells with abundant, deeply eosinophilic cytoplasm (Fig. C-1). Scattered, highly characteristic "strap-shaped" cells with cross-striations reflecting myotubule differentiation were also seen (Fig. C-2). The cytomorphologic features, patient's age, and location in the prostate were diagnostic of rhabdomyosarcoma (RMS). Histologically, the tumor was composed of varying proportions of poorly differentiated, round or spindled, small, blue cells with scant or strongly eosinophilic cytoplasm, and small oval nuclei. Larger cells with cytoplasmic cross-striations resembling myoblasts from embryonal myogenesis were seen (Fig. C-3). The tumor cells stained positive for desmin and myogenin on cell block sections and were negative for CD99 (O13) immunoperoxidase stains (Fig. C-4).

The most common cause of a prostatic mass in this age group is RMS. RMSs account for over half of all soft tissue sarcomas in children.[1] They arise from primitive muscle cells or rhabdomyoblasts that recapitulate various stages of embryogenesis of normal skeletal muscle. Consequently, they are highlighted by myogenin, sarcomeric actin, and desmin immunostains and show sarcomeres (thick and thin filaments) and Z bands on electron microscopy. The five histologic subtypes are embryonal, alveolar, pleomorphic, anaplastic, and sclerosing types. Embryonal RMS is the most frequent subtype, usually presenting at around 8 years of age with a slight male predilection.[2] They occur in the lower genitourinary tract including the bladder, prostate, testes, paratesticular sites, penis, perineum, vagina, and uterus. Although no diagnostic translocation has been found to date, they are frequently characterized by loss of heterozygosity at the 11p15 locus, with loss of maternal genetic material and duplication of paternal genetic information (paternal disomy).[3–5]

The distinction between embryonal RMS and other small round cell tumors (SRCTs) of childhood has important therapeutic implications because contemporary multimodality treatment protocols have vastly improved the prognosis of this tumor.[6] FNA can be used as a rapid, reliable, and economical diagnostic tool in differentiating embryonal RMS from SRCTs. The cytologic findings of large, tadpole/ribbon-shaped tumor cells with cross-striations

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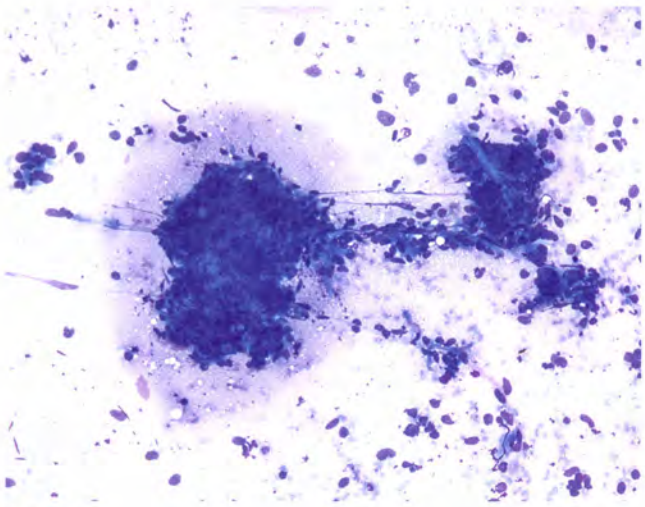

Fig. C-1

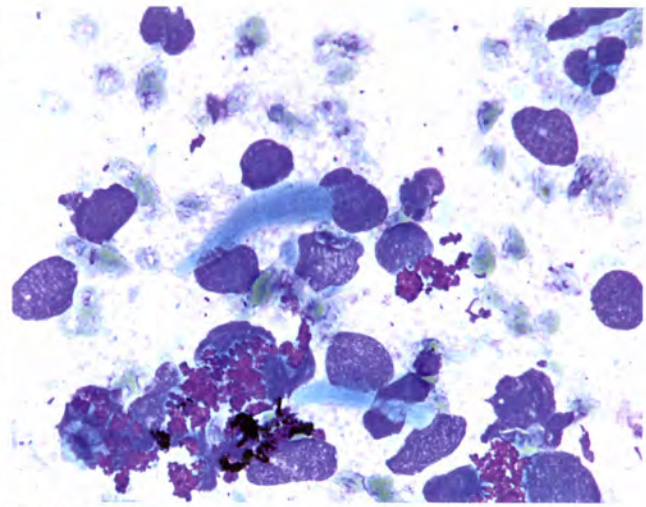

Fig. C-2

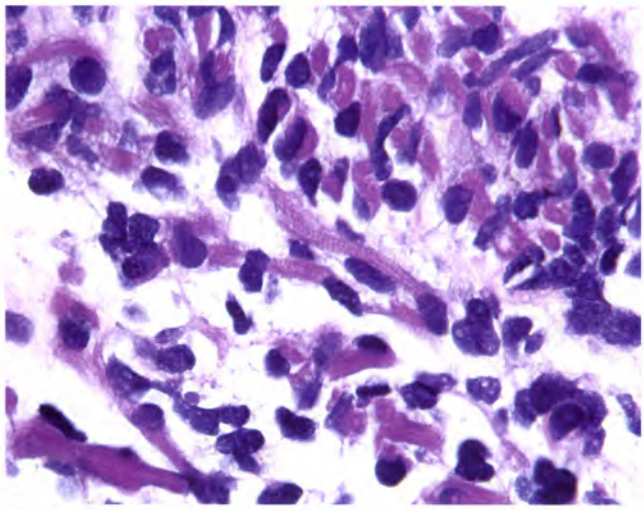

Fig. C-3

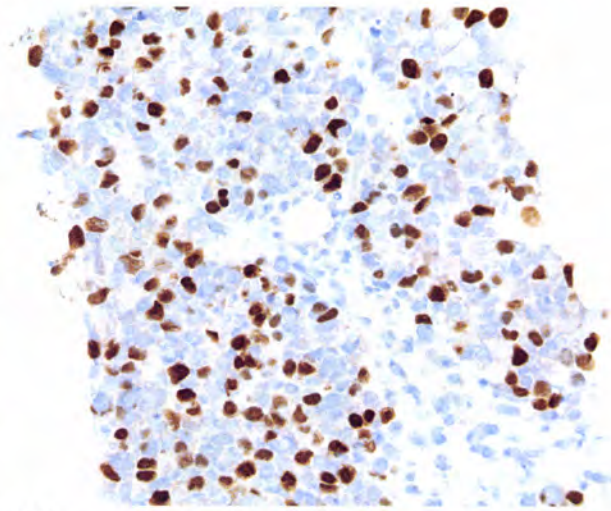

Fig. C-4

Figs. C-1–C-4. Fig. C-1. Prostatic rhabdomyosarcoma, FNA: Cellular aspirate with predominantly dyscohesive cells and loose three-dimensional fragments of spindled cells with fine wisps of cytoplasm (Diff Quik, ×600). **Fig. C-2.** Prostatic rhabdomyosarcoma, FNA: Large isolated, so called "strap cells" with elongated and tapering cytoplasmic processes displaying striations reflecting myotubule differentiation (Diff Quik stain, ×600). **Fig. C-3.** Prostatic rhabdomyosarcoma, histologic section: The tumor consists of round or spindled, small, blue cells with scant or strongly eosinophilic cytoplasm. Larger cells with cytoplasmic cross-striations (rhabdomyoblasts) are identified (H&E, ×600). **Fig. C-4.** Prostatic rhabdomyosarcoma, Histologic section: The tumor cells display diffuse nuclear staining for myogenin (Immunoperoxidase, ×200).

in a background of smaller, primitive, single cells, and cohesive tissue fragments, coupled with clinical data and radiologic studies, can enable a confident and accurate diagnosis of embryonal RMS.

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Interconnecting Cytoplasmic Processes on Fine-Needle Aspiration Smears of Carotid Body Paraganglioma

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The cytologic features of carotid body paraganglioma on fine needle aspiration have been well described. Typically in Papanicolaou stain and Romanowsky-type stain, the aspirates are bloody and contain scattered single cells and cell clusters. Nuclei are round to oval with anisonucleosis, variable degrees of pleomorphism, and rare intranuclear pseudoinclusions. The cytoplasm can be plasmacytoid, spindled, delicate, or ill defined. On Romanowsky-type stains, pink cytoplasmic granules are often observed.

In a recent case of carotid body paraganglioma diagnosed by ultrasound-guided aspiration in a 53-year-old female with a 2.2-cm nodule at the left carotid bifurcation, we observed a cytologic feature that has not been previously described.[1–6] Interconnecting cytoplasmic processes, classically seen on ultrastructural examination, were found extending between the neoplastic cells on Ultrafast Papanicolaou (UFP)-stained smears (Fig. C-1A).[7] These processes were especially conspicuous when highlighted by neuroendocrine immunocytochemical markers CD56 (Fig. C-1B), synaptophysin, and chromogranin. Interconnecting cytoplasmic processes are invisible in Diff-Quik stained smear (Fig. C-1C). The diagnosis of paraganglioma was confirmed on resection (Fig. C-1D).

It stands to reason that interconnecting cytoplasmic processes should be indistinct on standard wet-fixed Papanicolaou preparations because the processes are present in different focal planes. In addition, the aspirated red blood cells in traditional Papanicolaou stain and in Diff-Quik stain would obscure the delicate interconnecting cytoplasmic processes. On air-dried, rehydrated preparations such as UFP, the cytoplasmic processes are well visualized because they are in the same focal plane and the background is devoid of obscuring red blood cells, which had been hemolysed by normal saline. Of note, the presence of interconnecting cytoplasmic processes rules out other neuroendocrine tumors such as medullary thyroid carcinoma, carcinoid tumor of lung or small intestine, and pancreatic endocrine tumor, all of which lack such processes.

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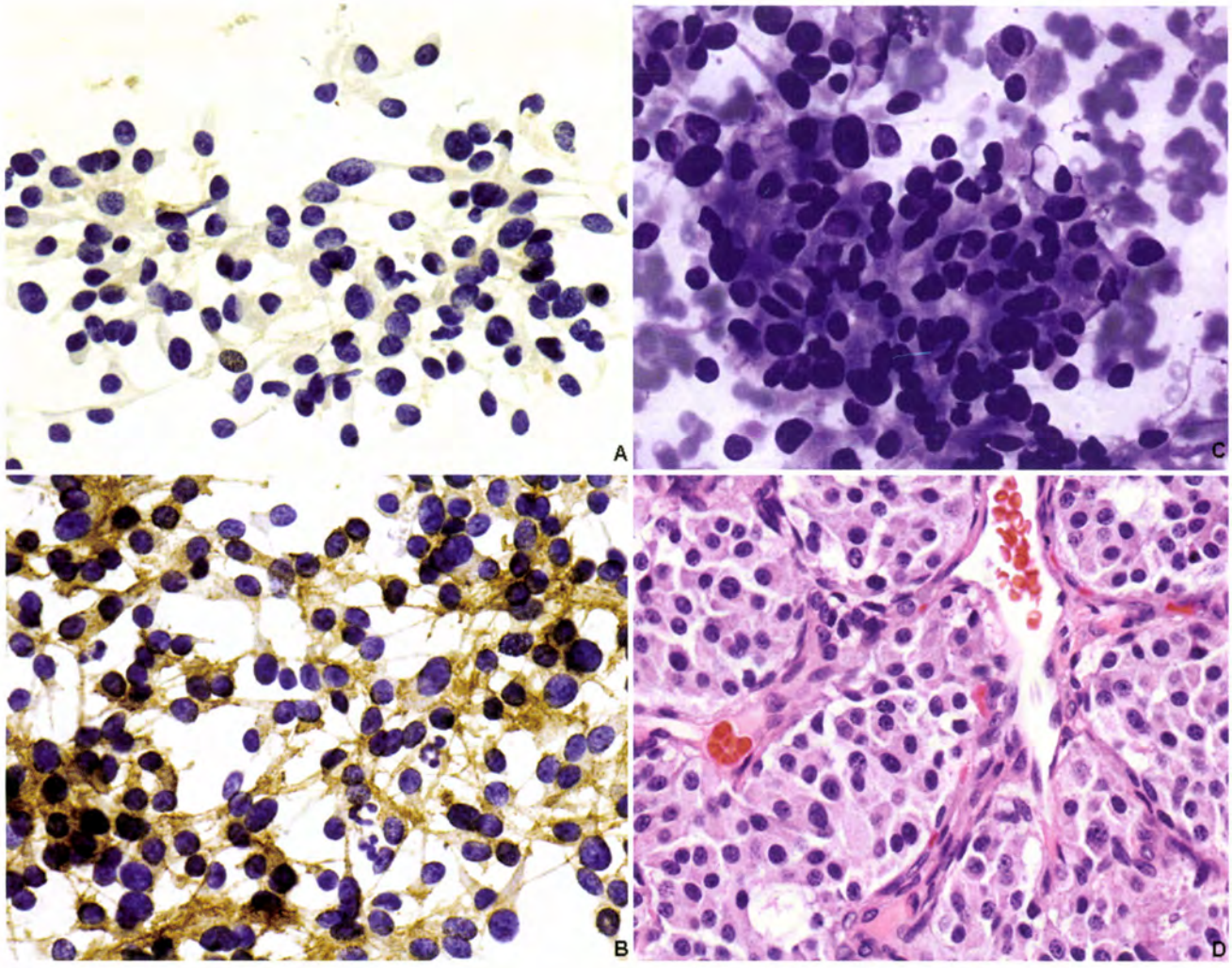

Fig. C-1. Carotid body paraganglioma. **A–C:** Fine needle aspiration cytology; (A) Ultrafast Papanicolaou (UFP) stained smear, (B) CD56 immunohistochemistry on UFP stained smear, (C) Diff-Quik stained smear. **D:** Histology of resected tumor, H&E, ×400.

Imprint Cytologic Features of Chromophobe Renal Cell Carcinoma Morphologically Resembling Renal Oncocytoma:

Is This an Oncocytic Variant of Chromophobe Renal Cell Carcinoma?

Tadanori Yamaguchi, C.T.,[1*] Naoto Kuroda, M.D.,[2] Yoshiaki Imamura, M.D.,[3] Ondrej Hes, M.D.,[4] Michal Michal, M.D.,[4] Radek Sima, M.Sc.,[4] Keizou Nakayama, C.T.,[5] and Nodoka Sato, M.D.[6]

In this article, we report a case of 76-year-old woman with a rare variant of chromophobe renal cell carcinoma (CRCC). Cytologically, renal tumor cells obtained from imprint cytology were isolated or arranged in small or monotonous population cells with abundant granular cytoplasm. Neoplastic cells showed regular and uniformly shaped small round to oval nuclei with smooth margin. Binucleation was occasionally seen. Immunocytochemically, the cytoplasm of almost all tumor cells was diffusely positive for vimentin and CK 7. Histologically, the cytoplasm was abundant granular eosinophilic and composed of solid cell sheets or pseudoacinar structures. Additionally, tumor cells showed infiltration into some small renal veins covered by a single layer of endothelial cells. These cytological and histological features entirely resembled those of renal oncocytoma. We performed the analysis of von Hippel-Lindau *(VHL) gene mutation, 3p loss of heterozygosity (LOH), and fluorescence in situ hybridization (FISH) on chromosomes 7, 10, 13, 17, and 21. As a result, we confirmed monosomy of chromosomes 7, 10, 13, and 17, and these findings corresponded to the diagnosis of CRCC. Finally, we present a case of renal tumor morphologically resembling renal oncocytoma but genetically showing CRCC. We suggest that oncocytic variant of CRCC may actually exist.* Diagn. Cytopathol. 2010;38:509–513.

Key Words: chromophobe renal cell carcinoma; renal oncocytoma; imprint cytology; FISH; kidney

Chromophobe renal cell carcinoma (CRCC) is a malignant neoplasm accounting for ~5% of all renal tumors.[1] Although pathological features distinguishing between CRCC and renal oncocytoma (RO) have been previously described in several reports, hybrid tumors of CRCC and RO have been recently reported.[2–8] The reported incidence of hybrid/variants tumor that 10% (7/67) of hybrid tumor, 54% (36/67) of CRCC, and 36% (24/67) of RO.[8] Therefore, it is possible that cases presenting difficulty in differential diagnosis between CRCC and RO exist. We report a rare tumor morphologically resembling RO but using genetic analysis of *von Hippel-Lindau (VHL)* gene mutation, 3p loss of heterozygosity (LOH) and fluorescence in situ hybridization (FISH) on chromosomes 7, 10, 13, 17, and 21 identified as a rare variant of CRCC.

Case History

A 76-year-old Japanese woman underwent preventive screening examination. Abdominal ultrasound sonography revealed a renal mass at the lower pole of the left kidney.

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Computed tomography (CT) scan and magnetic resonance imaging (MRI) revealed cystic changes in the renal mass. However, these imaging examinations did not disclose central scar. Renal cell carcinoma (RCC) with cystic changes was clinically suspected. No abnormal findings were evident on bone scintigraphy, blood biochemical data, or tumor marker determinations. No other obvious tumorous lesions were detected by systemic image screening. No symptoms of Birt–Hogg–Dubé syndrome were detected. Radical left nephrectomy was performed. Macroscopically, a tumor measuring 7 cm in the largest diameter was found at the lower pole of the left kidney. No definite invasion to surrounding tissue was noted. Imprint cytology was obtained from the tumorous portion of the resected kidney. During a 33-month postoperative follow-up, neither recurrence nor metastases were detected.

Materials and Methods

Imprint cytologic smears were stained by May-Grunwald-Giemsa, papanicolaou, and immunocytochemical methods after fixation in 95% ethanol. The material from nephrectomy was fixed in 10% buffered formalin, embedded in paraffin, cut into 3 μm thick slices, and subjected to hematoxylin-eosin (HE) staining. Immunohistochemistry was performed using an EnVision™ +system (DAKO, Tokyo, Japan) kit, using methods previously described.[5] Antibodies against vimentin (V9, 1:100; Novocastra Laboratories, Newcastle, UK), cytokeratin 7 (OV-TL 12/30, 1:50; Novocastra Laboratories, Newcastle, UK), CD10 (56C6, 1:80; Novocastra Laboratories, Newcastle, UK), alpha-methylacyl-CoA racemase (AMACK) (13H4, 1:100; Signet, Dedham, USA), epithelial membrane antigen (EMA) (E29, 1:100; DAKO, Glostrup, Denmark), E-cadherin (NCH-38, 1:100; DAKO, Glostrup, Denmark), renal cell carcinoma marker (RCC Ma) (66.4C2, 1:80; Novocastra Laboratories, Newcastle, UK), transcription factor E3 (TFE3) (polyclonal; 1:600; Santa Cruz Biotechnology), S100-protein (polyclonal, 1:400; Novocastra Laboratories, Newcastle, UK), CD117 (polyclonal, 1:100; DAKO, Glostrup, Denmark), melanosome (HMB-45, prediluted; DAKO, Glostrup, Denmark), antimitochondrial antigen (MIA) (MU213-UC, 1:100; Biogenex, San Romon, USA), and Ki-67 (MIB-1, 1:50; DAKO, Glostrup, Denmark) were used in this study. Appropriate antigen retrieval was performed for some of the antibodies. Specimens of alveolar soft part sarcoma and clear RCC were used as positive and negative controls for TFE3. Analyses of *VHL* gene mutation and 3p LOH, and FISH on chromosomes 7, 10, 13, 17, and 21 were done, using methods previously described.[9,10]

Results

Cytologic Findings

Monomorphic tumor cells in sheets, flat groups, etc., exhibiting uniform central small round to oval nuclei, finely granular chromatin, and small single nucleoli (Fig. C-1). Binucleation was occasionally seen, but perinuclear halo, nuclear grooves of raisinoid nuclei, and nuclear mitosis were not recognized. Cytoplasm was moderate in amount, granular, and the tumor consisted of monotonous population cells. Papillary clusters with fibrous vascular stalks and sinusoid-like arrangements surrounding capillaries were not seen. These cytological findings favored to RO rather than CRCC. On immunocytological staining, almost all tumor cells showed a diffusely positive reaction for vimentin and CK 7 (Figs. C-2A and B). However, CD10 and AMACR were completely negative. In the background of the tumor imprint cytology specimen, areas of degenerative granular material were observed, but neither necrosis nor calcifications were identified.

Histologic Findings

On histological examination, tumor cells showed a granular eosinophilic, moderately abundant cytoplasm, uniform in size, centrally located small round nuclei and formed solid cell sheets or pseudoacinar structures (Fig. C-3). Nested pattern or papillary configuration was not seen. Necrosis was seen in small foci. Tumor cells showed an invasion to branches of small renal veins. No metastases were seen in the lymph nodes or adrenal gland. Colloidal iron stain showed weak cytoplasmic staining with apical accentuation, but no strongly positive staining was seen. These histological findings were identical to RO. Immunohistochemically, tumor cells stained diffusely positive for vimentin, CK7, EMA, E-cadherin, and MIA. However, RCC Ma, AMACR, TFE3, S100 protein, CD117, and melanosome (HMB-45) were completely negative. The Ki-67 labeling index was very low (less than 1%). No mutation of *VHL* gene was found, and no 3p LOH was observed in the successfully analyzed samples in Table I. FISH analyses of the tumor revealed monosomy of chromosomes 7, 10, 13, and 17 in Table II (Figs. C-4A and B). Immunohistochemical and genetic results supported a diagnosis of CRCC.

Discussion

CRCC is a malignant renal epithelial neoplasm designated as a specific disease entity in the WHO Classification from 2004.[1] At first, we suspected that tumor could be RO with renal vein extension. Occasional cases showing extension into perinephric adipose tissue or vascular invasion have been described in the literature.[11,12] In a large study published by Hes et al.[9] extension into branches of the renal vein was noted in 7 of 324 RO cases (2.2%). Although the follow-up period was not very long, neither recurrence nor metastases were detected and benign nature of such tumors was suggested by authors.

Renal tumors with oncocytic cytoplasm occasionally requires complicated differential diagnosis and RCC

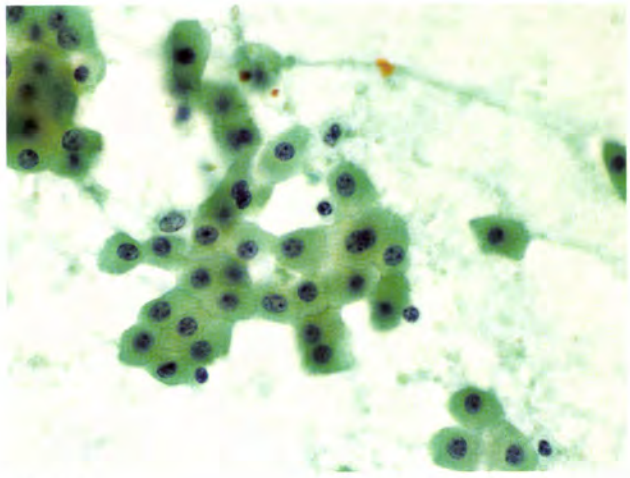


Fig. C-1

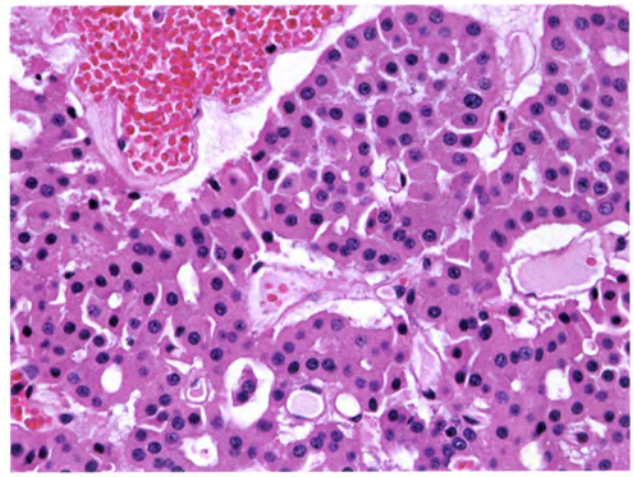
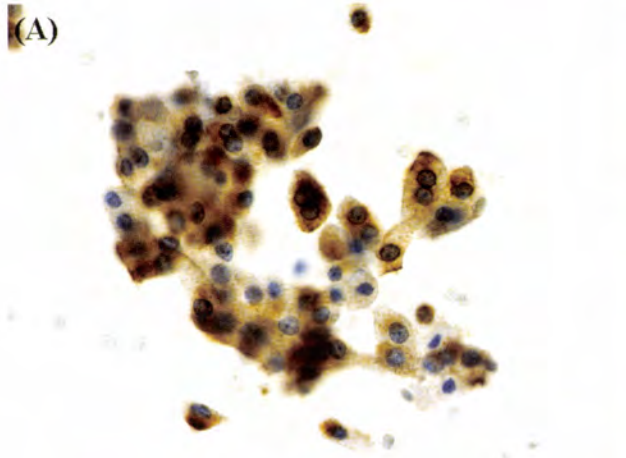


Fig. C-3



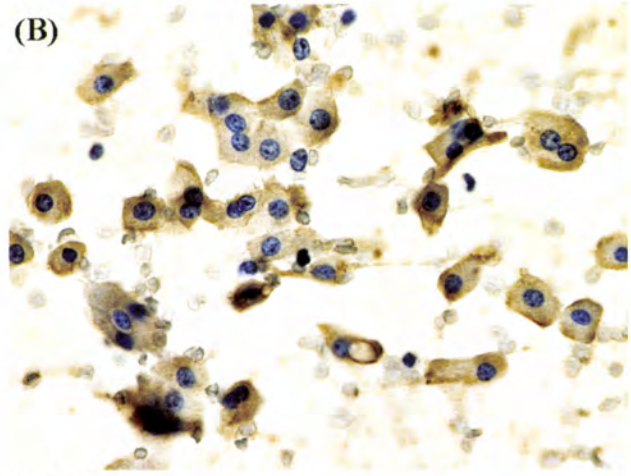
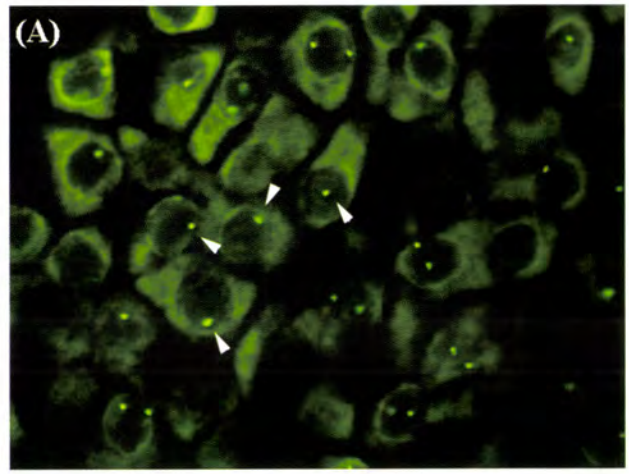


Fig. C-2



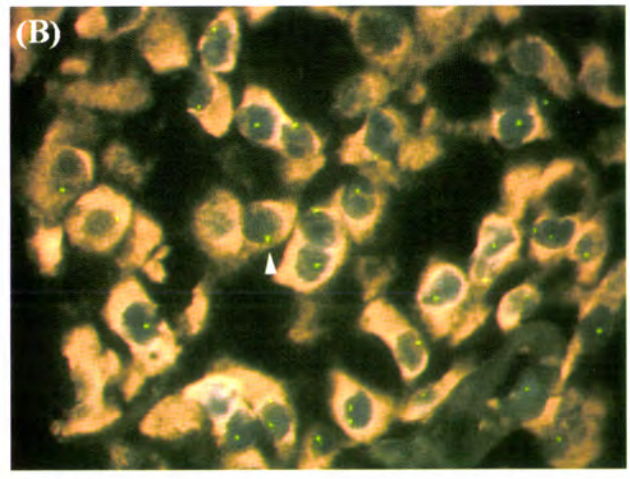


Fig. C-4

Figs. C-1–C-4. Fig. C-1. Imprint cytologic smear showing groups of tumor cells that exhibit abundant granular cytoplasm, uniformly shaped small round to oval nuclei with small nucleoli, and resemble renal oncocytoma (Papanicolaou, ×600). **Fig. C-2.** Imprint smears showing (**A**) strong positive staining for vimentin in many tumor cells and (**B**) strong positive staining for cytokeratin 7 in some tumor cells (Immunocytochemistry, ×600). **Fig. C-3.** Tumor section showing solid cell sheets or pseudoglandular growth pattern of neoplastic cells with eosinophilic granular cytoplasm morphologically indistinguishable from renal oncocytoma (H&E, ×400). **Fig. C-4.** Histologic specimens showing monosomy of (**A**) chromosome 10 and (**B**) chromosome 17 in tumor cells (FISH).

Table I. Results of *VHL* Gene Mutation and 3p Loss of Heterozygosity

	VHL *mutation status*	*D3S1317*	*D3S1300*	*D3S666*	*D3S1768*
This case	wt/wt	NI	Neg.	Neg.	Neg.

LOH: loss of heterozygosity, VHL: von Hippel-Lindau, NI: noninformative, wt: wid type, neg.: negative.

Table II. FISH Results of Chromosomes 7, 10, 13, 17, and 21

	Chromosome 7	*Chromosome 10*	*Chromosome 13*	*Chromosome 17*	*Chromosome 21*
Total counting cells	521	430	488	502	503
One signals	148 (28.4%)	285 (66.3%)	98 (20.1%)	291 (58.0%)	56 (11.1%)
Two signals	363 (69.7%)	144 (33.5%)	387 (79.3%)	208 (41.4%)	437 (86.9%)
Three signals	10 (1.9%)	1 (0.2%)	3 (0.6%)	3 (0.6%)	10 (2.0%)
Final judgement	Monosomy	Monosomy	Monosomy	Monosomy	Disomy

should be distinguished from RO. Based on our cytological findings, the differential diagnosis among eosinophilic variant of chromophobe RCC, oncocytic papillary renal cell carcinoma and clear cell renal cell carcinoma (granular cell variant), and RO was taken into the consideration. Cytological findings of CRCC including prominent cell border, perinuclear halo, nuclear membrane irregularity, and binucleation have been previously described.[13,14] However, cytological findings of this tumor were not compatible with aforementioned features. RO generally shows the following cytological findings.[15–17] Isolated cells and occasional small clusters of cells with abundant, eosinophilic, granular cytoplasm with well demarcated borders, occasional binucleation, and bland round nuclei with inconspicuous nucleoli. However, slight nuclear atypia and mild pleomorphism are rarely seen. These findings correspond to some findings of our case.

FISH study of chromosomes 1, 2, 6, 10, 13, 17, and 21 is very useful in establishing the diagnosis of CRCC.[18,19] Oncocytic papillary renal cell carcinoma is characterized by a papillary morphology and granular deeply eosinophilic cytoplasm resembling RO.[20,21] In some oncocytic papillary RCC, abnormalities of chromosomes 7 and 17 has been revealed by the FISH analysis.[20] In this case, FISH of chromosomes 13 and 17 showed monosomy and corresponded to findings of CRCC. Distinction from the most commonly encountered cell type, clear cell RCC, is also necessary. In some clear cell RCCs, the granular eosinophilic cytoplasm may be focally or extensively present. Sinusoid-like structures surrounding capillaries close to tumor cells are discernible. Additionally, it is known that more than 50% of clear cell RCCs show mutations of *VHL* gene and loss of heterozygosity of chromosome 3p.[1] However, no such changes were detected in the present case. Based on aforementioned results, diagnosis of CRCC was established. A recent large study has shown that some CRCCs may contain oncocytoma-like area.[22] However, histological findings of our case entirely resembled RO. Erlandson et al.[23] have suggested that the presence of oncocytic variant of CRCC, namely mitochondria-rich morphology in the cytoplasm using an ultrastructural study, but this variant has not been widely accepted because many investigators has considered that this morphology should be categorized in eosinophilic variant. However, our case suggests that an oncocytic CRCC characterized histologically by uniform oncocytoma-like appearance and genetically multiple chromosomal losses may exist. Pathologists should recognize that this morphology is essentially different from hybrid tumor of chromophobe RCC/oncocytoma seen in Birt-Hogg-Dubé syndrome or sporadic cases.[8,24–26] Amin et al.[22] suggest that a subset of eosinophilic variant of CRCC may partly contain areas similar to RO suggested by findings such as nesting growth pattern in edematous stroma and centrally located round nuclei. This subset was observed in 30% of eosinophilic variant of CRCC, and there is generally a natural transition between CRCC and RO. Mai et al.[26] express that such a tumor is hybrid CRCC and RO. However, our case entirely resembled RO in histological examination. Therefore, our case seems to be basically different from tumor category described in their articles. A large study will be necessary to clarify the clinical and pathological significance of this tumor group. The differential diagnosis of oncocytic renal tumors includes eosinophilic variant of chromophobe RCC, oncocytic papillary renal cell carcinoma, clear cell renal cell carcinoma (granular cell variant), occasionally RO, etc.

In summary, we described a rare case of CRCC histologically resembling RO but exhibiting genetic features associated with CRCC.

Acknowledgments

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Adrenocortical Carcinoma Presenting With a Peritoneal Effusion

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In this report, we describe the fine-needle aspiration findings of a case of adrenocortical carcinoma (ACC) that spread to the peritoneal cavity in an 80-year-old female. Cytologically, the peritoneal fluid exhibited clusters and single, small uniform cells with round nuclei and a fine chromatin pattern, which in conjunction with the immunohistochemical stains was diagnostic of ACC. Although ACC is the most common malignant neoplasm of the adrenal gland, its metastatic spread to the peritoneal cavity is exceptionally unusual. Diagn. Cytopathol. 2010;38:514–516. © 2009 Wiley-Liss, Inc.

Key Words: adrenocortical carcinoma; adrenal gland; metastases; ascites; fine-needle aspiration

Adrenocortical carcinoma (ACC) is a rare neoplasm with a relatively poor prognosis. Patients may present with an endocrine syndrome or symptoms related to a retroperitoneal occupying mass.[1] Despite aggressive surgical curative resection, the majority of patients have local recurrence and distant metastases. The most common sites of metastases are liver, lung, and bone.[2] Here, we describe an unusual case of ACC presenting as a carcinomatous peritoneal effusion.

Case Report

The patient was an 80-year-old female who presented to Rush University Medical Center with weakness and altered mental status changes of 1-month duration. Laboratory data showed hyponatremia and hypokalemia along with metabolic alkalosis. Her morning cortisol level was 70 mcg/dL (6 AM), and the repeat value was 79 mcg/dL (5 AM) [normal range 6–23 mcg/dL]. Plasma ACTH was 7 pg/mL [normal range 9–52 pg/mL].

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Clinical suspicion for an adrenal cortical tumor was entertained. The patient underwent a CT scan of the abdomen, which demonstrated a 5-cm lobulated left adrenal mass abutting the pancreas with a large peritoneal effusion. Fine-needle aspiration of the left adrenal gland mass was performed.

Cytologic Features

Diff-Quik stain showed a uniform population of round cells with focal acinar differentiation and minimal anisocytosis (Fig. 1). The background of the smear showed focal adrenal cortical naked nuclei and fine vacuolization.

Peritoneal fluid was also sampled and sent to the cytopathology laboratory for evaluation. ThinPrep of the peritoneal fluid showed clusters and single, small uniform cells with round nuclei and a fine chromatin pattern (Fig. 2). The cell block preparation showed mostly single uniform cells with rare tumor clusters (Fig. 3).

Immunohistochemical staining performed on the cell block material of the peritoneal fluid showed the tumor cells to be strongly positive for synaptophysin (Fig. 4), whereas both chromogranin and calretinin were negative. Cytokeratins 8/18 and AE1/AE3 stained the mesothelial cells; however, the tumor cells were negative (Fig. 5).

The tumor cells of the cell block material of the adrenal gland fine-needle aspirate showed a similar immunohistochemical pattern to those of the peritoneal fluid.

Based on the cytological features of the adrenal gland aspirate, peritoneal fluid, immunohistochemical pattern, and clinical presentation of the patient, the diagnosis of an adrenal cortical carcinoma was rendered.

Discussion

ACC is a rare tumor with an estimated worldwide annual incidence of two per million.[3,4] It is responsible for only ~0.2% of all cancer deaths in the United States annually, and it is the second most aggressive endocrine malignancy behind anaplastic thyroid cancer. Women are more frequently affected than men (1.5:1), and patients present with evidence of adrenocortical hormonal excess in 40–60% of cases.[2,5] The prognosis of ACCs is generally poor

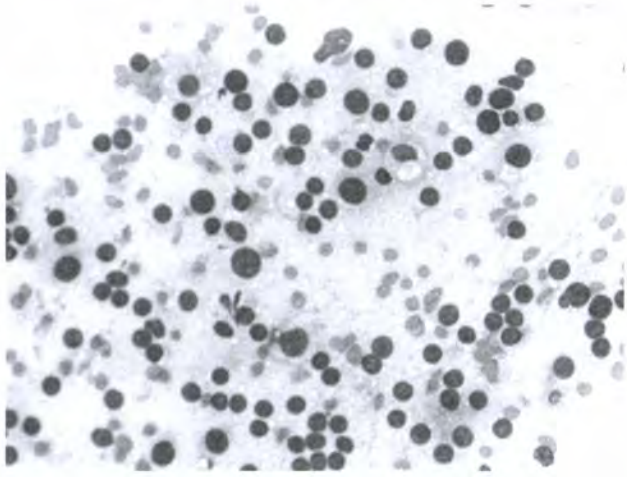

Fig. 1. Diff-Quik stain showing a uniform population of round cells with focal acinar differentiation and minimal anisocytosis (×400). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

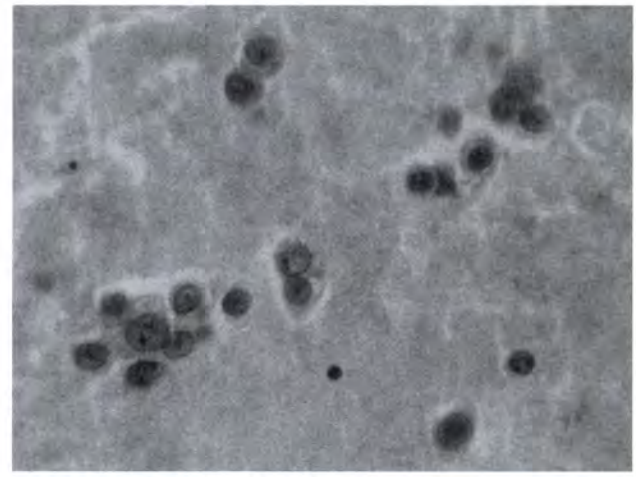

Fig. 3. Cell block preparation showing mostly single uniform cells with rare clusters of tumor cells (H&E, ×400). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

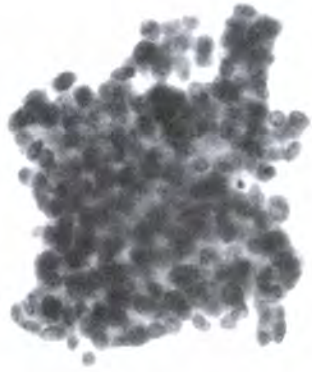

Fig. 2. ThinPrep of the peritoneal fluid showing clusters and single cells of small uniform cells with round nuclei and a fine chromatin pattern (Papanicolaou, ×400). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

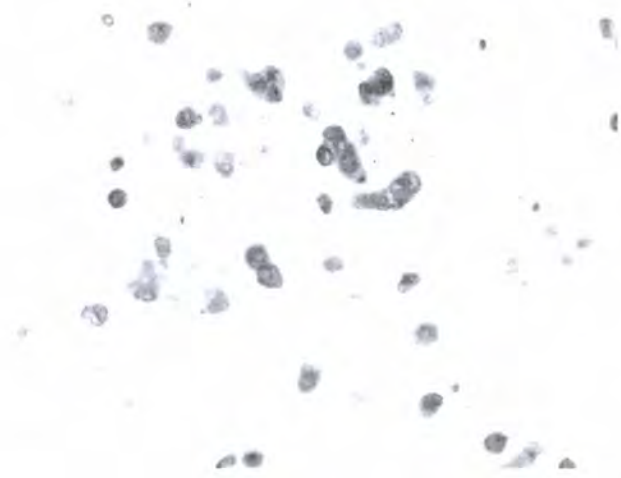

Fig. 4. Cell block material of the peritoneal fluid showing the tumor cells to be strongly positive for synaptophysin (H&E, ×400). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

because most patients present with large tumors and advanced disease. Approximately 50–70% of patients have extra-adrenal disease at the time of presentation.[6]

The cytologic features of ACC are well established on fine-needle aspiration material and consist of very cellular smears with predominantly single cells. Loose-cellular clusters are also usually present. Capillary vasculature traversing the tumor clusters has been described. Tumor cells may have uniform to markedly pleomorphic nuclei with coarse chromatin, depending upon the differentiation of the tumor. Nucleoli are usually prominent. Multinucleation and bizarre nuclear forms are common in poorly-differentiated ACCs. Cytoplasm is usually densely granular, and intranuclear pseudoinclusions may be present. Finely vacuolated (lipid-rich) cytoplasm may be present in some tumors but is rarely observed in fine-needle aspiration specimens. Frequent mitotic figures, including atypical ones and necrosis, are commonly seen in poorly-differentiated tumors, but they are less frequently observed in fine-needle aspirates.[7–10]

It is important to distinguish ACC from adenomas on fine-needle aspirate material. Adrenocortical adenomas yield moderately cellular smears that have a characteristic pattern. The smears show numerous isolated naked nuclei dispersed in a bubbly and granular background. Some overlapping nuclei show slight molding. There may be variation in size with occasional large nuclei, but mitoses are usually absent. Occasional cells with intact, bubbly (microvesicular) cytoplasm can be identified. Some adenomas contain abundant intracellular lipofuscin pig-

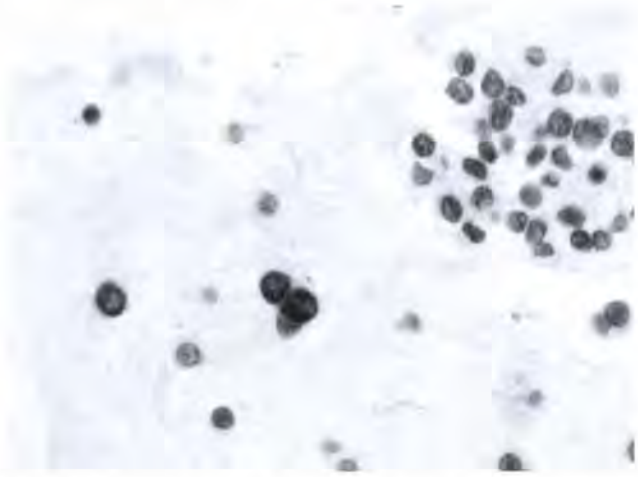

Fig. 5. Cell block material of the peritoneal fluid showing cytokeratinAE1/AE3 positive mesothelial cells, while the tumor cells being negative (H&E, ×600). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

ment.[11,12] However, well-differentiated adrenal cortical carcinomas at times are very difficult to differentiate from adrenal cortical adenomas, as our present case illustrates.

Immunohistochemistry is generally not used in routine diagnosis to distinguish benign from malignant adrenocortical tumors. However, the differential diagnosis of adrenal cortical carcinoma must include other adrenal and extra-adrenal tumors with similar morphological features, including pheochromocytomas, direct extension from renal cell and hepatocellular carcinomas, as well as metastatic tumors.[13]

Alpha-inhibin and melan A antibodies are the most sensitive markers for determination of the adrenocortical origin of adrenal cortical carcinoma, although they are not highly specific. Compared with other types of carcinoma, adrenal cortical carcinoma is usually negative or only focally positive for different types of cytokeratins and EMA. Negative staining for CD10 and antihepatocyte antigen militates against a renal and liver neoplasm, respectively. Positivity for neuroendocrine markers is restricted to synaptophysin, whereas chromogranin A is invariably negative, a feature that helps to distinguish ACC from pheochromocytoma.[13,14]

ACC typically spreads through the adrenal veins, inferior vena cava, and regional lymphatics to the lungs, liver, bones, and paraaortic lymph nodes. Metastasis to the serosal cavities is rare. Nakata et al. in 1993 reported a 53-year-old woman with a history of ACC that presented with a massive pericardial effusion and a giant pericardial mass.[15] Bilimoria et al. in 2008 cites the incidence of pertitoneal metastasis in patients with advanced ACC as less than 1%.[2]

In conclusion, we present an unusual case of ACC that spread to the peritoneal cavity, revealed by the cytological and immunohistochemical examination of the peritoneal fluid cells, causing carcinomatous ascites.

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Significance of Incidental Detection of Filariasis on Aspiration Smears:
A Case Series

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Filariasis is a major public health problem in tropical and subtropical countries including India. Although there are reports of incidentally diagnosed cases of lymphatic filariasis in the existing literature, the significance of this finding needs to be summarised in one place. The association of filariasis with neoplasms is still debatable.

For this series, cases diagnosed as filariasis on aspiration cytology (with or without coexistent pathology) over a period of 1 year were retrieved. The cases with a clinical suspicion of filariasis were excluded. Hence, five cases with incidental diagnosis of filariasis on aspiration cytology were included. The site of aspiration included one case each of thyroid, breast, bone marrow, cervical lymph node, and subcutaneous nodule. Of these, three cases showed microfilariae, one showed only adult female worm while one showed both microfilariae and adult worm. Two cases did not show any inflammatory response while three cases showed a variable inflammatory reaction. Only one case (thyroid aspirate) had a coexistent pathology (colloid goitre). Filariasis may be detected in a clinically unsuspected case, especially in an endemic zone. The spectrum of host response may vary from no reaction to a marked inflammatory response. The entire spectrum of changes should be kept in mind while practicing cytopathology in an endemic area. In such situations, a high index of suspicion and careful screening of cytology smears are keys to a correct diagnosis. At the same time, keen search for a coexisting pathology, benign or malignant, is also mandatory.
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Key Words: filariasis; aspiration cytology; incidental diagnosis; thyroid; breast

Filariasis is a global public health problem of tropical and subtropical countries including Southeast Asia, Sub-Saharan Africa, and Latin America. There are an estimated 60 million infected people in Southeast Asia Region and about 31 million people having clinical manifestation of disease.[1] Because of increasing overseas travel, this disease is assuming importance even in areas where this infestation is not highly prevalent. Though there are eight species of filarial worm which infect man, *Wuchereria bancrofti* and *Brugia malayi* are responsible for most of the cases in India.[1] Microfilariae of *W. bancrofti* are characterized by a sheath, which is longer than the larval body, hence tail tip is free of nuclei. On the other hand, microfilariae of *B. malayi* are smaller in size and nuclei extend up to the tail tip.[1]

The clinical diagnosis of lymphatic filariasis is usually considered in a patient with characteristic lymphangitis and history of travel to or residence in an endemic area. However, the spectrum of clinical manifestations varies from asymptomatic microfilaremia to severe symptomatic disease without microfilaremia.[2] In the absence of peripheral blood microfilaremia, a specific diagnosis requires demonstration of worms or microfilaria on biopsy or fine needle aspiration cytology (FNAC).

There are few reports of incidental diagnosis of filariasis in cytological smears, which describe the morphological changes noted in such cases.[1–4] However, the tissue response and variations thereof have not been reported adequately in the previous reports in literature.[2,5] Though occasional cases of incidental detection of microfilaria in neoplastic conditions have been described, the association is still debatable.

This report discusses the various host responses that may be observed in a case of clinically unsuspected and incidentally diagnosed filariasis on aspiration cytology.

Materials and Methods

All cases of filariasis diagnosed on aspiration cytology over a period of 1 year at the primary institution were retrieved. Those cases, where the diagnosis of filariasis

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Table I. Clinical and Cytomorphological Findings in Incidentally Diagnosed Cases of Filariasis

Age/sex	*Clinical diagnosis*	*Parasite seen*	*Background/inflammatory reaction*
30 year, Female	Nodular goitre	Microfilariae	Features of colloid goitre with no local response to parasite
70 year, Female	Carcinoma, Breast	Microfilariae and fragments of adult female worm	Acute inflammatory cells, macrophages, epithelioid cell granulomas and giant cells. No malignant cells seen
32 year, Female	Lipoma	Fragments of adult female worm	Acute inflammatory cells. No evidence of lipoma
36 year, Female	Tubercular lymphadenopathy	Microfilariae	Lymphocytes, histiocytes, foamy macrophages and occasional fibroblasts
40 year, Male	Pancytopenia	Microfilariae	Cellular marrow with mild increase in lymphocytes

was clinically suspected, were excluded. This yielded five cases, in which filariasis was diagnosed incidentally on FNAC. All the FNA smears were stained by Giemsa stain. FNA smears of these five cases were reviewed and the cytological findings, including the host response (including the main type of inflammatory reaction), presence of microfilaria, or adult worm were noted. At the same time, extensive search was conducted for any coexistent pathology in the smears.

Results

The age of these five patients ranged between 30 and 70 years, with four being females. The presenting features included thyroid nodule, breast mass, multiple recurrent subcutaneous nodules over forearms, left cervical lymph node enlargement, and pancytopenia. Hence, the clinical diagnoses ranged from benign (colloid goitre) to malignant (carcinoma breast) pathology. The clinical and pathological features are depicted in the Table I.

Smears from all the cases, except case 3, showed presence of microfilariae (Figs. 1 and 2). Case 3 showed only fragments of adult worm in the smears while case 2 revealed both microfilaria as well as adult worm. The host reaction was variable in our cases. Case 3, which was an aspirate from subcutaneous nodule, showed acute inflammatory exudates with fragments of adult worm. Case 2 showed acute inflammatory cells, macrophages as well as non-necrotizing epithelioid cell granulomas and foreign body type giant cells (Fig. 3). The lymph node aspirate (case 4) showed features of nonspecific lymphadenitis with evidence of fibrosis. The thyroid aspirate (case 1) did not show any local inflammatory response to parasite, although bone marrow (case 5) showed an increase in lymphocytes (28% of all nucleated cells). Eosinophilia was not observed in any of these five cases. A coexisting pathology was seen in about one out of five (20%) of our cases.

Discussion

The spectrum of illness in filariasis is wide and varied but asymptomatic microfilaremia is the most common manifestation.[2] The classical clinical features of lymphatic filariasis include lymphangitis, lymphadenitis, hydrocoele, elephantiasis, chyluria, allergic manifestations, and tropical eosinophilia. Other less frequent presentations include recurrent inflammatory lesions, localized nodules in the breast, scrotum, and subcutaneous tissue.[6] As also noted in our study, filariasis may be diagnosed without the clinical features of lymphatic involvement, especially in endemic areas.

Various reports in the literature describe the tissue reaction as ranging from an intense inflammatory reaction of neutrophils, lymphocytes, eosinophils, epithelioid cells, and foreign body giant cells surrounding dead worm.[7] Liquefaction necrosis, Charcot Leyden crystals, and degranulated eosinophils have also been described.[7]

In the present series, we observed a spectrum of tissue response in cases of filariasis. The finding of microfilariae in the aspirate from colloid goitre without an inflammatory response may be considered a chance finding. The bone marrow aspirate showed only a mild increase in lymphocytes without eosinophilia. A granulomatous response was evident in the breast aspirate, where the clinical suspicion was that of a malignancy. The lymph node aspirate did not show granulomas, however, histiocytes, foamy macrophages, and occasional fibroblasts were seen. Careful screening revealed microfilariae allowing us to make the correct diagnosis. An acute suppurative response was observed in the aspirate from the patient with recurrent subcutaneous swellings and a clinical impression of lipoma.

Microfilariae have also occasionally been reported in association with various benign and malignant tumors such as haemangioma of liver, meningioma, squamous cell, and undifferentiated carcinoma of the uterine cervix, lymphangiosarcoma, urinary bladder carcinoma, metastatic carcinoma, melanoma, and leukaemia.[6] Their presence along with tumors is usually considered as an incidental finding. However, in tumors, the rich vascular supply could possibly encourage the concentration of parasites at such sites.[6] The existence of such reports of neoplasms along with microfilariae warrants careful and complete microscopic search for the coexisting pathology when microfilaria/adult filarial worm are found on cytosmears.

As far as body fluids and effusions are concerned there is high chance of underlying malignancy when microfilariae are seen. Walter et al. found malignancy in 57% of

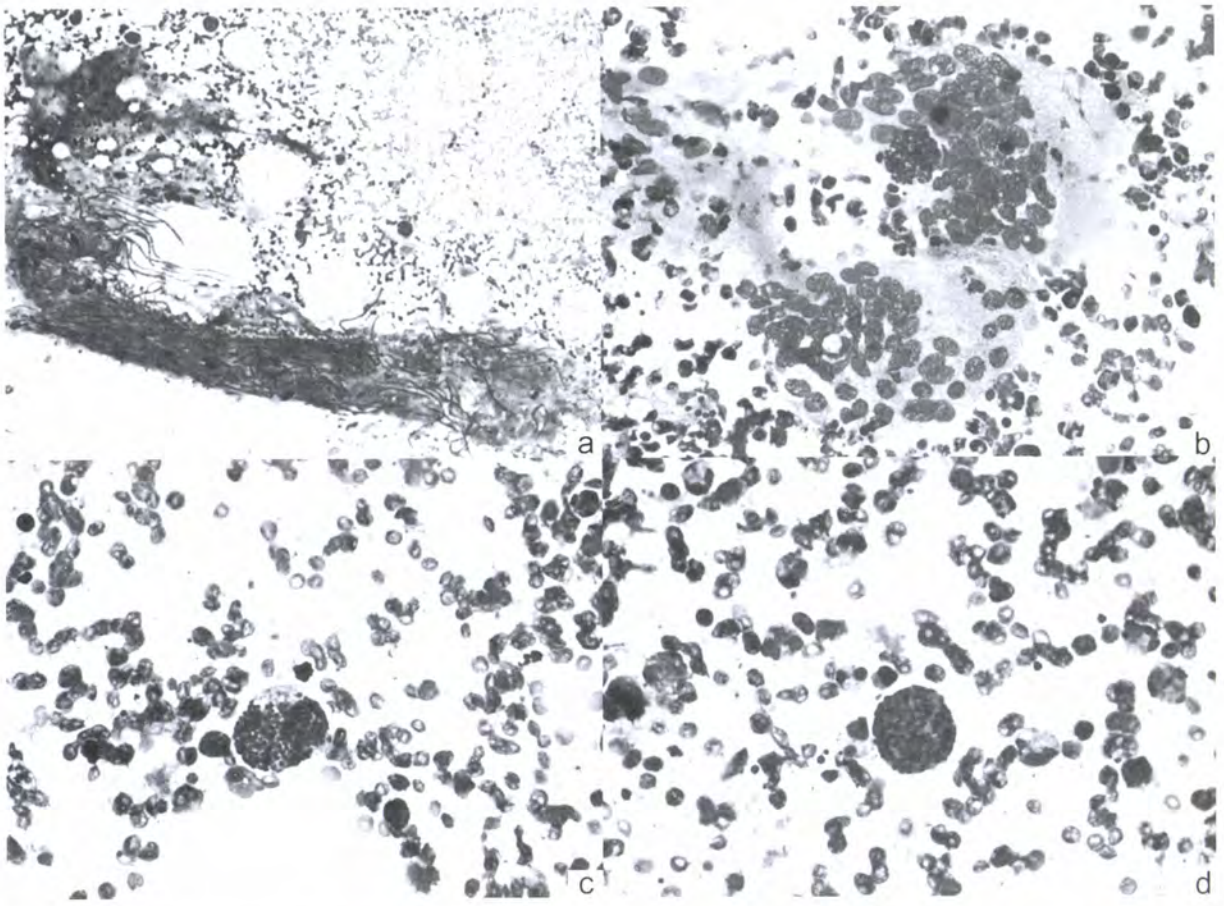

Fig. 1. Photomicrographs from breast aspirate showing numerous microfilariae along with fragments of adult worm (**a**, Giemsa, ×100). Giant cell reaction to fragments of adult worm is seen (**b**, Giemsa, ×200). High-power view show fragments of adult worm (**c** and **d**, Giemsa, ×200). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

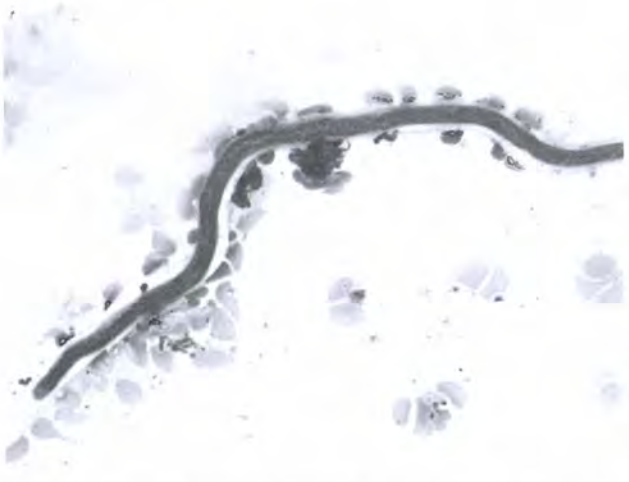

Fig. 2. Microfilaria in the thyroid aspirate (Giemsa, ×400). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

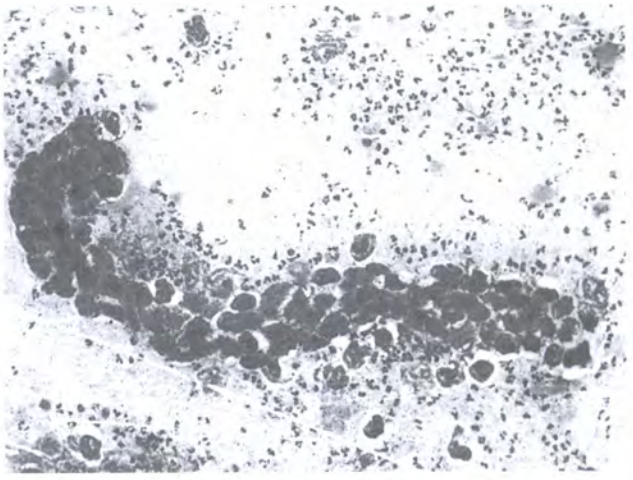

Fig. 3. Fragments of adult worm surrounded by numerous polymorphs in aspirate from subcutaneous nodule (Giemsa, ×200). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

their cases when microfilariae was seen in body fluids.[5] This may be due to blood vessel proliferation and increased chances of rupture of vessels in cases of malignancy. Same can be said of the case described by Sharma et al. of the presence of microfilariae in smear from ulcerated lesion at perineum in a 20-year-old female. They found evidence of the presence of adult worm also.[2] We have seen adult parasite in two of our cases. As pointed by Jain et al., the most common stage found in cytological smears is microfilaria (62.3%), the adult worm being seen less commonly (13.7%).[6] The presence of microfilaria in thyroid has been reported in only nine cases in the literature so far.[1,3,4] Of the nine cases, six had cytologic features of colloid goitre while two had coexisting neoplastic lesions. The presence of microfilaria in thyroid has been suggested to be a result of lodging of parasite in the intrathyroid microvasculature and subsequent rupture.[1,4] The same can be said about the case 1 in our series.

Because of the chronic manifestations of hydrocoele, limb lymphedema, and elephantiasis, filariasis is one of the important causes of disability and exerts a major impact on health care costs, especially in countries endemic for this infestation. Hence, the World Health Organization (WHO) has launched a global programme to eliminate lymphatic filariasis by the year 2020.[8] India, being a signatory to the WHO resolution, has set its target for national elimination by the year 2015 (Ministry of Health and Family Welfare, Government of India: National Health Policy 2002). Though microfilaria is frequently identified in aspiration smears and serous effusions, the role of cytology in preventive measures has not been accomplished. However, we hypothesize that detection of filariasis in clinically unsuspected cases might lead to institution of preventive measures to avoid further spread of the disease by using mosquito nets etc.

On conclusion, filariasis may not be suspected clinically before being diagnosed incidentally in aspiration smears. The spectrum of host response can vary from no reaction to a marked inflammatory response, which may be composed, of acute or chronic inflammatory cells with or without granuloma and associated fibrosis. Careful screening and high index of suspicion, especially in endemic areas, are the keys to correct diagnosis in such cases. Other coexistent pathology must always be searched for by thorough screening in all these cases.

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Cytologic Features and Frequency of Plasmacytoid Dendritic Cells in the Lymph Nodes of Patients With Histiocytic Necrotizing Lymphadenitis (Kikuchi-Fujimoto Disease)

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Histiocytic necrotizing lymphadenitis (HNL), also known as Kikuchi-Fujimoto disease, is a benign and self-limiting disease. It is histologically characterized by nodal lesions that show the infiltration of histiocytes, lymphoid cells, myeloid dendritic cells (mDCs), and plasmacytoid dendritic cells (pDCs), along with either apoptotic or karyorrhexic nuclear debris. pDCs have been proposed to be lymphoid early-committed immature DCs which are positive for CD123, CD303, CD68, and HLA-DR but negative for fascin, a mature DC marker, as well as CD13 and CD33,which are mDC markers. In the present study, we analyzed the cytomorphologic features and frequency of pDCs in the lymph nodes of HNL patients. Because the cytologic apprearance of pDCs with Papanicolau staining was quite similar to that of large lymphocytes, immunocytochemistry against CD123 was necessary for the distinction of pDCs. Counting the number of CD123-positive pDCs in the HNL lymph nodes revealed that pDCs more frequently infiltrated the lymph nodes in the setting of HNL than in either reactive lymphadenitis or T and B cell lymphoma. In addition, interestingly, the number of pDCs did not depend on the age of the HNL lesion, thus suggesting that pDCs are excellent indicators for the cytologic diagnosis of HNL. Diagn. Cytopathol. 2010;38:521–526.

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Histiocytic necrotizing lymphadenitis (HNL), also known as Kikuchi-Fujimoto disease, was first described in Japan and is now recognized throughout the world as a distinct clinocopathological entity.[1,2] HNL is a benign and self-limiting disease that primarily affects young females. Isolated cervical lymphadenopathy is common, and it may be accompanied by fever and night sweats, however, in some patients, the only presenting symptom may be a fever of unknown origin. The etiology of HNL is unknown; however, viral or autoimmune pathogenesis is suspected. HNL and systemic lupus erythematosus (SLE) share pathogenetic events based on histological overlap and a small number of patients with HNL later develop SLE.[3,4]

Microscopically, HNL is characterized by nodal paracortical and cortical patchy necrotic areas with prominent karyorrhectic and karyolytic debris. These necrotic areas are surrounded by mononuclear cells composed of histiocytes, phagocytic macrophages, lymphoid cells, foamy histiocytes, and a significant population of plasmacytoid dendritic cells (pDCs).[5,6] The presence of plasma cells and neutrophils is not a feature of HNL. Depending on the time course, karyorrhexis or a mononuclear reaction with variable cellular composition may predominate. The developmental stage of a typical necrotic lesion is characterized by a mixture of large lymphoid cells, histiocytes, and pDCs. A differential diagnosis from lymphoma may

Table I. Summary of Clinical Findings in Four Japanese Patients With Histiocytic Necrotizing Lymphadenitis

Patient no.	*Age (years)/gender*	*Clinical diagnosis*	*Symptoms*	*Period from the initial symptom to the LN biopsy*	*Biopsied LN*	*Prospective cytological diagnosis*	*Histology*	*Disease-free period from the LN biopsy*
1	35/M	HNL	Fever, cervical lymph node swelling	1 week	Cervical	HNL	HNL	2 weeks
2	21/M	ML suspected	Fever, cervical lymph node swelling	1 month	Cervical	HNL	HNL	1 week
3	44/F	ML suspected	Fever, cervical lymph node swelling	3 months	Cervical	HNL	HNL	unknown
4	29/M	HNL, viral lymphaden-itis	Fever, Cervical and inguinal lymph node swelling	3 weeks	Cervical	HNL	HNL	1 week

HNL, histiocytic necrotizing lymphadenitis; LN, lymph node; ML, malignant lymphoma.

therefore be particularly difficult to make during this stage, and some cases of HNL have also been misdiagnosed as large cell lymphoma because of the atypical features of the large lymphoid cells.[7]

It has been reported that DCs consist of two subpopulations based on separate differentiation pathways, namely, myeloid-derived DCs (mDCs), a major subset of human peripheral blood DCs, and plasmacytoid (lymphoid) DCs.[8,9] The mDCs and pDCs are characterized as lin-/HLA-DR+/CD11c+ and lin-/HLA-DR+/interleukin-3 receptor alpha chain (CD123)+, respectively. In the literature, different terms have been used for pDCs, including plasmacytoid monocytes,[10,11] plasmacytoid T-cells,[12] natural interferon-alpha-producing cells,[13] and type 2 predendritic cells.[14] The pDCs are positive for CD303 (BDCA-2), but negative for CD13 and CD33, markers of mDCs, and fascin, a marker of mature DCs.

The recent notions that pDCs accumulate in infectious lymph node disorders such as tuberculosis and sarcoidosis lead us to investigate how frequently pDCs are observed in HNL-lymph node and what are the cytologic characteristics of pDC.

pDC differentiates from plasmacytoid monocyte (pMo) which was at first described by Lennert and Remmele in 1958.[15] pMo was morphologically similar to the plasma cells, but lacked the expression of immunoglobulins and B cell markers. Therefore, pMo was at first considered as a peculiar cell. However, it turned out that pMo exists in thymus and also in T zone of lymph node. Based on these data, together with the notion that pMo expressed CD4, pMo was considered as T cell.[6] This is a reason why pDC was named also as plasmacytoid T-cell.[12] Later, it turned out that pMo lacked the expression of CD3 and T cell antigen receptor, but expressed CD68, marker for monocyte. Thus, pDCs possess the characteristics of monocytes and lack morphological similarity of plasma cells after differentiation from pMo.

In the present study, we cytologically analyzed pDCs in four cases of HNL and found that pDCs in HNL-lymph nodes are more frequent than in lymph nodes associated with reactive lymphadenitis and lymphoid neoplasia. We also analyzed whether the appearances of pDCs in HNL-lymph nodes depend on the clinical course. Intriguingly, we found that the appearance of pDCs in HNL-lymph node is independent of the clinical course.

Materials and Methods

Patients

The clinicopathological details of the patients with HNL are shown in Table I.

Cytomorphologic and Immunocytochemical Analyses

Touch smears of HNL (4 cases), reactive lymphadenitis (10 cases), T cell lymphoma (3 cases), B cell lymphoma (6 cases), and Hodgkin lymphoma (3 cases) were stained with Giemsa and Papanicolaou (Pap) methods.[16,17] The frozen stocked touch smear was prepared for immunocytochemistry using anti-CD123 antibodies, and was subsequently stained with Giemsa and Pap staining. The number of CD123-positive pDCs was counted at a 40× objective lens in a field in which the cells were evenly distributed. Ten fields were observed and the average number of CD123-positive pDCs was calculated. The primary antibodies used for immunocytochemistry were as follows: CD3 (1:100 dilution; Novocastra, Newcastle upon Tyne, UK; clone PS1), CD4 (1:50; Novocastra, Newcastle upon Tyne, UK; 1F6), CD8 (1:100; Novocastra, Newcastle upon Tyne, UK; 1A5), CD20 (1:200; DAKO, Glostrup, Denmark; L26), CD68 (1:200; DAKO, Glostrup, Denmark; KP1), and CD123 (1:20; BioLegend, San Diego, USA; 6H6). Antigen retrieval was performed using an ethylenediamine tetraacetic acid (EDTA)-based solution. Avidin-HRP and diaminobenzidine (DAB) were used to detect biotinylated secondary antibodies.[16,17]

Results

Histologic Distribution of pDC in HNL and the Cytologic Features of pDC

As shown in Figure 1A, an irregular patchy focus in the subcapsular necrotic area was observed. This necrotic focus

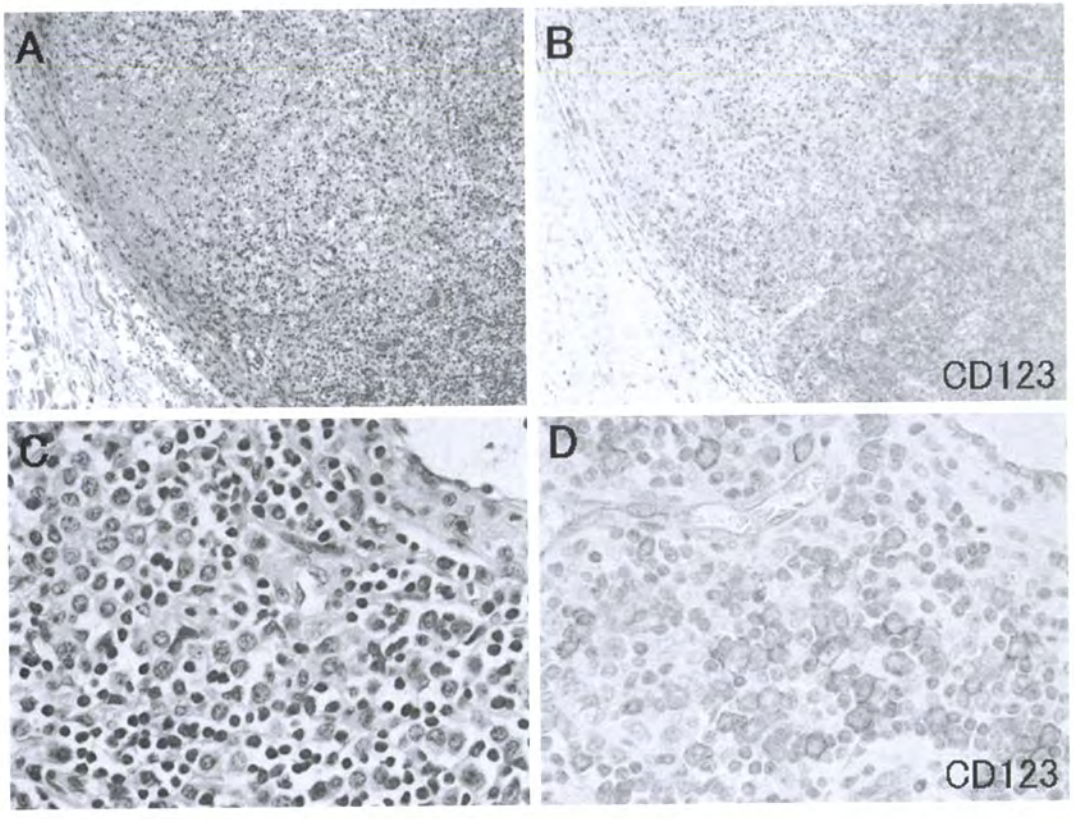

Fig. 1. Histologic features of histiocytic necrotizing lymphadenitis. **A:** Necrotic foci (arrow) in the subcapusular area of a lymph node in histiocytic necrotizing lymphadenitis (HNL) patient 1 (H&E, ×10 objective). **B:** Plasmacytoid dendritic cells, which are positive for CD123, surrounding the necrotic foci (Immunohistochemistry, ×10). **C:** Diffuse perivascular proliferation of small and large lymphocytes in the paracortex of the lymph node (HNL patient 1, H&E, ×40). **D:** Focal or scattered localization of CD123-positive pDCs in the perivascular region. The pDCs are of the same size as large lymphocytes (HNL patient 1, IHC, ×40). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

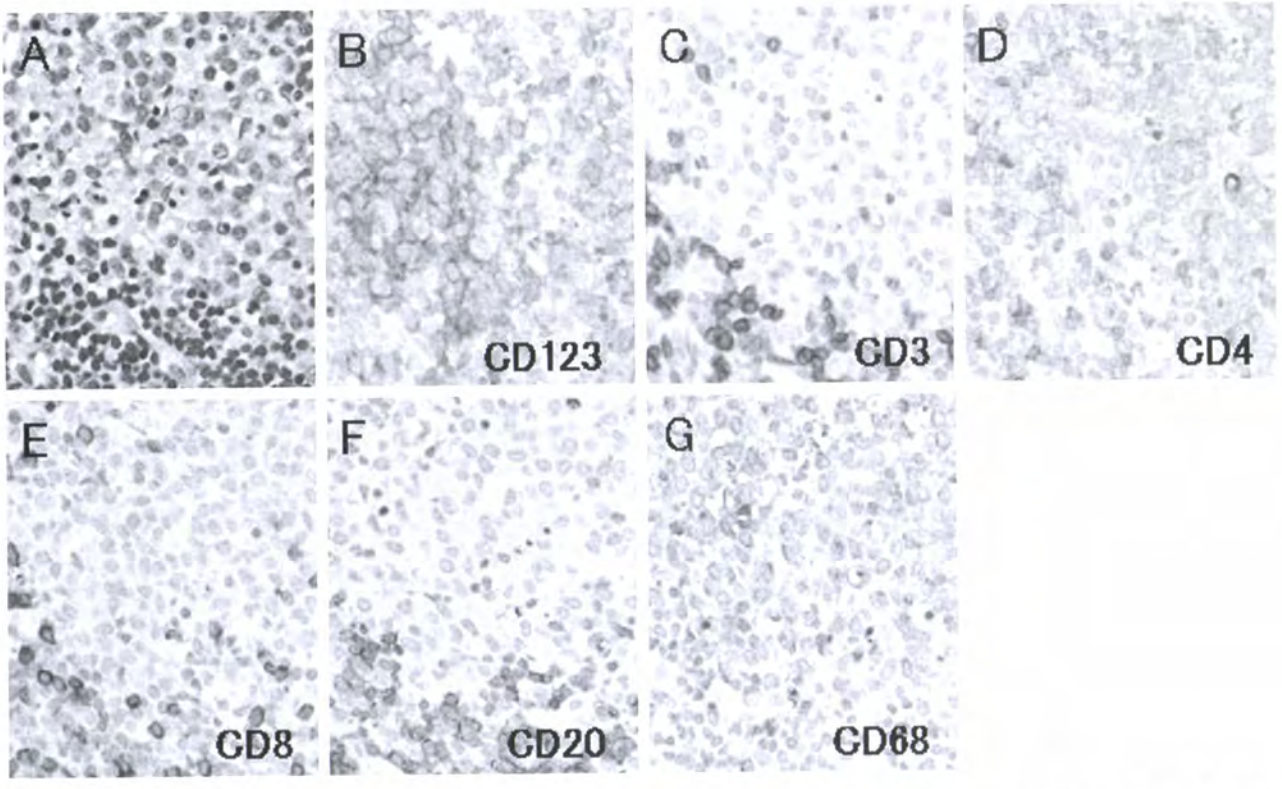

Fig. 2. Immunohistochemical features of HNL. **A:** The pDCs in patient 1 (H&E, ×40). **B:** Immunohistochemically, pDCs are positive for CD123 (×40). **C–G:** Immunohistochemical analysis of pDCs against CD3, CD4, CD8, CD20, and CD68. The same lesion as in (A) is shown. The pDCs are positive for CD4 (D) and CD68 (G) but negative for CD3 (C), CD8 (E), and CD20 (F). Small and large lymphocytes are positive for CD3 and CD8, respectively (×40). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

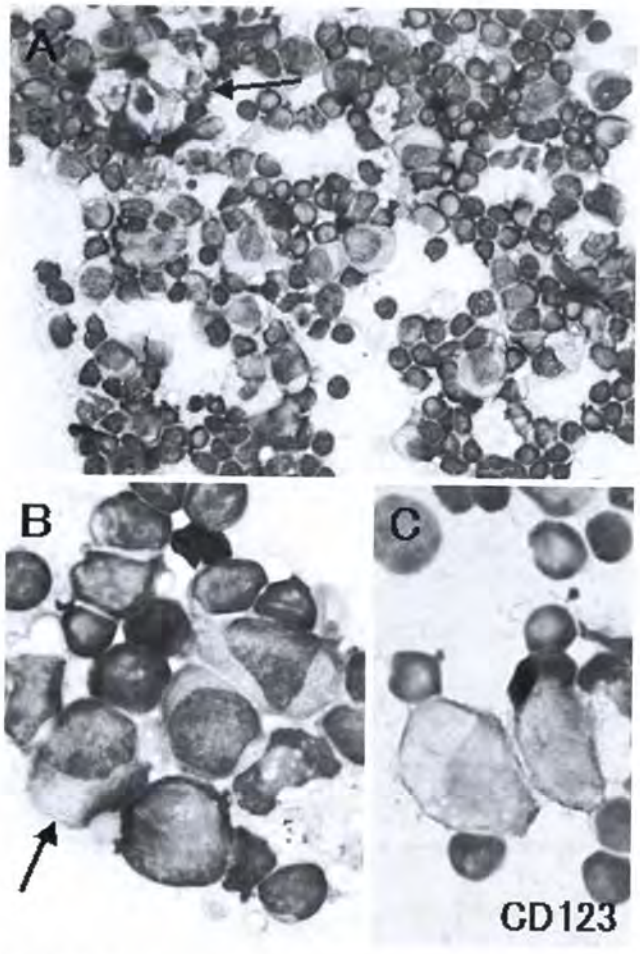

Fig. 3. HNL touch-smear cytology with Giemsa staining. **A:** Small lymphocytes are predominant, and a few medium to large lymphocytes as well as histiocytes are shown. The arrow indicates a phagocytic histiocyte (Giemsa, ×40). **B:** The pDCs (arrow) possessed abundant and slightly basophilic cytoplasm. The eccentric nuclei of the pDCs show fine chromatin and nucleoli (Giemsa, ×100). **C:** The pDC cell surface is positive for CD123 in touch-smear (×100). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

was surrounded by CD123-positive pDCs (Fig. 1B). A higher magnification allowed the observation of perivascular infiltration of lymphocytes and pDCs in the paracortex of the HNL lymph nodes, although the pDCs were indistinguishable from lymphocytes in hematoxylin-eosin (H&E) staining (Fig. 1C). Immunohistochemical analysis revealed numerous CD123 positive cells in the same lesion as in Figure 1C (Fig. 1D). Figure 2 displays the immunohistochemical characteristics of cell surface antigens in pDCs. The same clusters of pDCs seen in HE staining (Fig. 2A) were analyzed with anti-CD123 (Fig. 2B), CD3 (Fig. 2C), CD4 (Fig. 2D), CD8 (Fig. 2E), CD20 (Fig. 2F), and CD68 (Fig. 2G) antibodies, and this analysis revealed that the pDCs were positive for CD123, CD4, and CD68, but negative for CD3, CD8, and CD20. The touch smear cytology of HNL showed that small lymphocytes were predominant. In addition, medium-sized and large lymphocytes as well as histiocytes were observed. A phagocytic histiocyte is indicated by an arrow in Figure 3A. Giemsa staining of the pDCs revealed a rich and slightly basophilic cytoplasm, eccentric nuclei, fine chromatin, and tiny nucleoli (arrow, Fig. 3B). The immunocytologic features indicated that pDC cell surface was positive for CD123 and rich cytoplasm (Fig. 3C). The touch smear cytology of HNL with the Pap method showed many small lymphocytes and a few phagocytic histiocytes (Fig. 4A). Immunocytochemistry shown in Figure 4B revealed the scattered distribution of isolated CD123-positive pDCs. At a higher magnification, pDCs showed a high *N/C* ratio (arrows) and a similar size as that of large lymphocytes (Fig. 4C). The cytologic features of pDCs in Giemsa staining showed rich cytoplasm. However, pDCs in Pap staining indicated a high *N/C* ratio and resembled large lymphocytes, suggesting that these differences need to be kept in mind to observe pDCs. A touch smear specimen with Pap staining was destained and then reacted with anti-CD123 antibodies. CD123-positive pDCs are indicated by arrows (Fig. 4D).

Frequency of pDCs in the HNL Lymph Nodes in Comparison to Reactive Lymphadenitis and Malignant Lymphoma

The average number of CD123-positive pDCs in the HNL lymph nodes was 23.3 (ranging from 19.2 to 26.0) per high power field. In comparison, the average numbers of CD123-positive pDCs in lymph nodes associated with reactive lymphadenitis, T cell lymphoma, Hodgkin lymphoma, and B cell lymphoma were 3.6 (0.4–14.4), 3.5 (1.0–6.7), 2.4 (1.9–3.1), and 0.4 (0–1.0), respectively (Fig. 5). Of particular note, the higher frequency of pDCs in the HNL lymph nodes was independent of the age of HNL (Table I), suggesting that pDCs are good markers for HNL in any clinical courses.

Discussion

DCs are antigen-presenting cells involved in the induction and regulation of immune responses, and recent studies have suggested that pDCs play a pivotal role in a wide range of pathologic conditions including autoimmune, GVH, infectious, and neoplastic diseases.

Tucci et al. reported that the number of peripheral pDCs decreased in patients with SLE and this defect in the number of DCs correlated with lupus nephritis. Interestingly, pDCs that express IL-18R infiltrate in the glomeruli in patients with severe lupus nephritis, and both the serum and glomerular IL-18 levels increased under this condition.[18] Together with the notion that pDCs infiltrate the lymph nodes in SLE patients, this report suggests that pDCs seem to play a key role in the pathogenesis of SLE. Rajasekar et al. analyzed 44 GVHD patients and

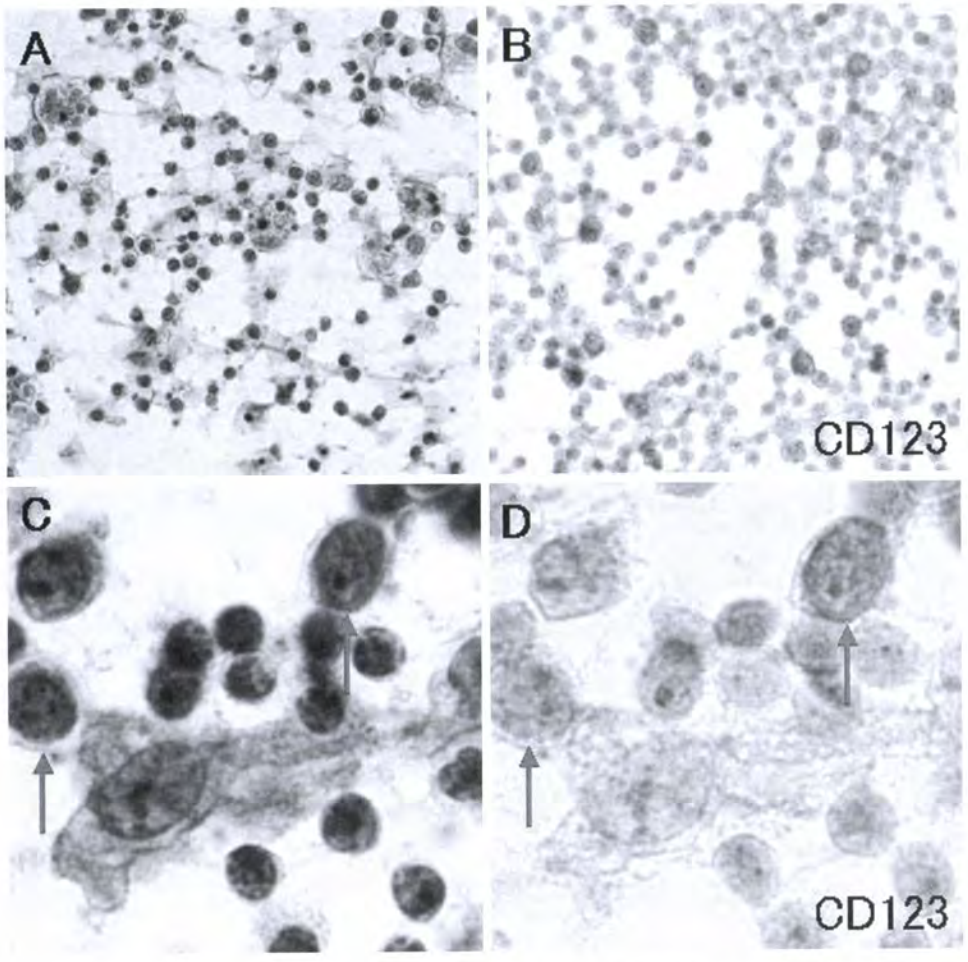

Fig. 4. HNL touch-smear cytology with Papanicolaou staining. **A:** Small lymphocytes are predominant, and a few phagocytic histiocytes are shown (Papanicolaou, ×40). **B:** Many CD123-positive cells in the small lymphocytes (Papanicolaou, ×40). **C:** Cytologic features of pDCs. The pDCs (arrows) resemble large lymphocytes (Papanicolaou, ×100). **D:** Destained specimen in (C) is used for the immunocytochemistry. The CD123-positive pDCs are indicated by arrows. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

observed that the pDC count in the peripheral blood on day 28 in HLA-matched related allogenic peripheral blood stem cell transplants is a strong predictor for the development of GVHD.[19]

Despite the recent advances in the clinicopathological research involved with pDCs, there have been insufficient reports of the cytomorphological characteristics of pDCs in HNL patients.[20,21] In the present study, we observed pDCs with Pap and Giemza staining as well as by immunocytochemistry, and we demonstrated that pDCs are quite similar to large lymphocytes. Therefore, immunocytochemistry is indispensable in the identification of pDCs. The morphologic findings observed in all four cases were similar, and the paracortical patchy lesions were composed of mononuclear cells and karyorrhectic nuclear debris. The cellular composition of the lesions varied depending on the age of the lesion. Numerous mononuclear cells and karyorrhectic nuclear debris could be iden-

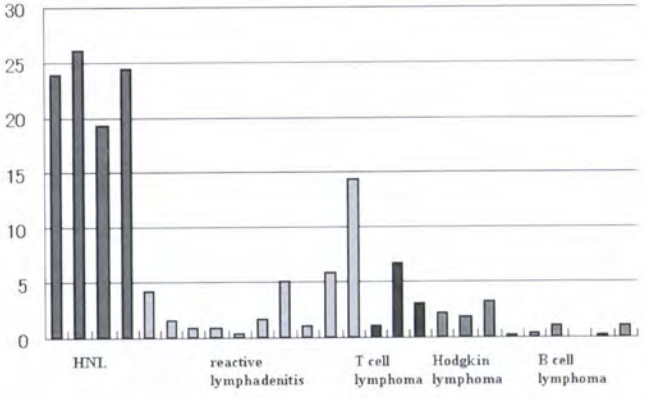

Fig. 5. Frequency of CD123-positive pDC cells in the high power field. The average numbers of CD123-positive pDCs in the lymph nodes of patients with HNL, reactive lymphadenitis, T cell lymphoma, Hodgkin lymphoma and B cell lymphoma are shown. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

tified in all lesions. Interestingly, the frequency of pDCs in HNL did not depend on the clinical stage. As shown in Table I, the clinical stages of HNL when the biopsy was performed varied among the four cases (ranging from 1 week to 3 months from the onset of initial symptoms); however, the pDC count was high in all four cases. These findings indicated that the pDC population is independent of the age of the lesion. Furthermore, pDCs are extremely valuable indicators for the diagnosis of HNL in cytology, particularly for distinguishing HNL from reactive lymphadenopathy and lymphoid neoplasms.

In the present study, we used touch smears to observe pDCs because cytologic characteristics of pDCs are easier to be understood compared to the fine needle aspiration (FNA) cytology. Another advantage in touch smears examination is the capability to make many slides, thus a variety of immunocytologic analyses are available. Although the FNA cytology is a routine examination, here we focused on the touch smear cytology because the several immunocytologic analyses were necessary to examine pDCs, in particular to differentiate them from large lymphocytes, and we think the results presented here are applicable to the FNA cytology. We have never performed the FNA cytology in the present study, but we think that the immunostaining of CD123 helps us to discriminate pDCs from large lymphocytes also in the FNA cytology.

To date, the frequency of CD123-positive pDCs in the lymph nodes of HNL patients has never been documented. The present study is therefore considered to provide important data for the cytologic diagnosis of HNL.

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Coexistent Atypical Polypoid Adenomyoma and Complex Atypical Endometrial Hyperplasia in the Uterus

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We report a case of atypical polypoid adenomyoma (APA) concomitantly identified with complex atypical endometrial hyperplasia (CAH) in the uterus. Since an initial endometrial smear revealed atypical endometrial cells, a diagnosis of CAH was made. Even though a concomitantly performed uterine cervical smear contained both atypical epithelial and stromal cells, the diagnosis of APA was not initially made because the cytological criteria for APA had not been established. Histologically, we recognized both CAH in the uterine corpus and APA in the lower uterine segment in the hysterectomy material. Retrospectively, the cells in the first cervical smear were interpreted as part of APA because the same types of cells were observed in the intraoperative cytology sample. Although the APA and CAH lesions were interposed by normal endometrium, estrogen was suspected to be the common etiological factor. Reports regarding the cytology of APA are currently scarce. To our knowledge, this is the first report showing cytological presentation of association of APA with CAH in addition to the first cervical smear of APA containing both epithelial and stromal components. Identification of abnormal proliferation of epithelium and stromal cells of smooth muscle origin is useful in the cytological diagnosis of APA. Diagn. Cytopathol. 2010;38:527–532.

Key Words: atypical polypoid adenomyoma; complex atypical endometrial hyperplasia; papanicolaou smear; cytology; estrogen

Atypical polypoid adenomyoma (APA) is a rare benign tumor with mixed epithelial and stromal components, first reported by Mazur in 1981.[1] To date, ~140 cases have been documented in the English literature.[2] Typically, it occurs as a sessile polypoid tumor in the lower uterine segment in premenopausal adult women, and the chief complaint of the patient is irregular genital bleeding.[3,4] Vaginal discharge and pelvic pain have been reported as less common symptoms, and asymptomatic cases may also occur.[4]

Histologically, the differential diagnosis of APA includes well-differentiated endometrioid adenocarcinoma and complex atypical endometrial hyperplasia (CAH). This differentiation can be problematic, since APA is accompanied by atypical columnar epithelium. As an additional problem, APA may be misinterpreted as being an invasive lesion in curettage material, because APA may be accompanied by a dense proliferation of smooth muscle cells.[5,6] However, the distinction between APA and malignancy is very important from the standpoint of treatment and prognosis.[4] The treatment program of APA is local excision along with close follow-up to preserve reproductive function.[6]

We encountered a case of APA in the lower uterine segment with concurrent CAH in the uterine corpus, and herein report the case. To our knowledge, the cytological presentation of this unique combination has not been previously reported in the English literature. Furthermore, this is the first study demonstrating an endocervical smear containing both epithelial and stromal components of APA.

Clinical Findings

A 48-year-old woman (gravida 2 para 2) with a 3-month-history of hypermenorrhea consulted a local doctor. Severe anemia with Hb = 2.7 g/dl was observed. Transvaginal ultrasonography and specular examination revealed a tumor in the lower uterine segment measuring

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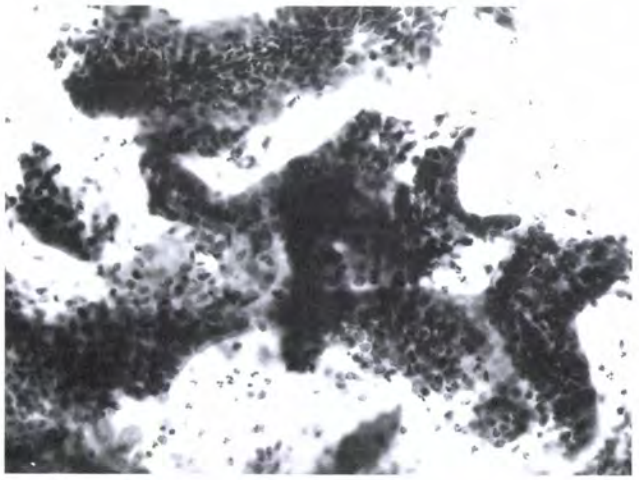

Fig. 1. Endometrial smear showing a large cluster mainly composed of endometrial epithelium with an admixture of stromal cells. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

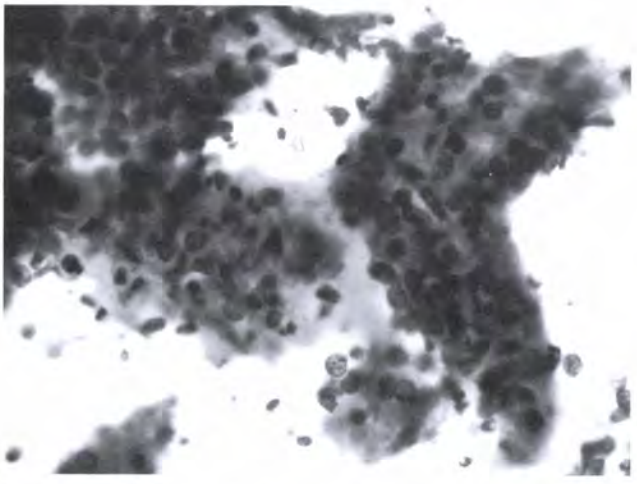

Fig. 2. High-power field of Figure 1 shows relatively preserved rim of the cluster, and each cell shows an enlarged nucleus, mild hyperchromatin, and no nucleolus. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

2 cm in diameter. Magnetic resonance imaging (MRI) demonstrated hyperplasia of the endometrium, suggestive of carcinoma. Endometrial curettage was performed and the histopathological diagnosis was CAH. Therefore, she was admitted to our hospital.

Upon physical examination, her blood pressure was 112/64, with a regular pulse rate of 78 beats/min^{-1} and her body temperature was 37.2°C. Hematologic test revealed Hb = 6.1 g/dl^{-1} (reference value: 11.5–15.5 g/dl^{-1}), Ht = 20.2% (reference value: 34.0–46.0%), MCV = 87.4 fl (reference value: 89.0–99.0 fl), MCH = 26.4 pg (reference value: 29.0–35.0 pg), and MCHC = 30.2% (reference value: 31.0–36.0%). The data were

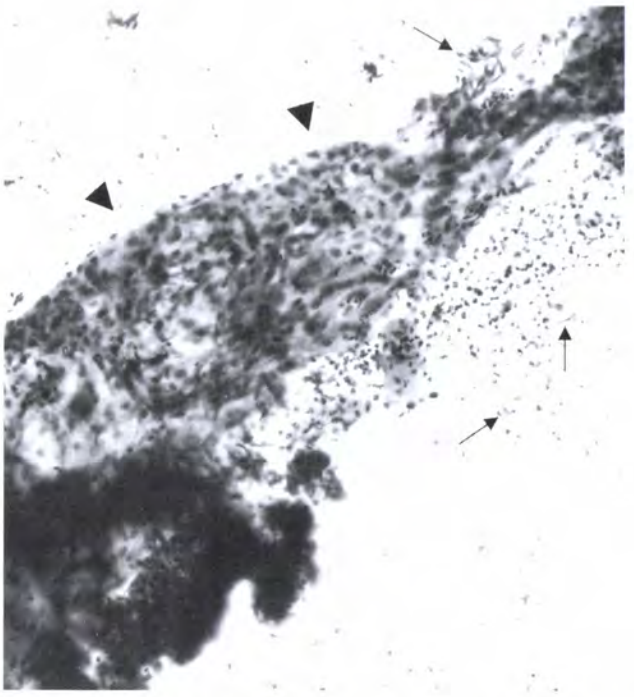

Fig. 3. Endocervical cytology shows clusters of atypical columnar cells (lower left) with sheet-like or palisading structure of squamous metaplasia (arrowheads) accompanied by scattered foci of spindle cells (arrows). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

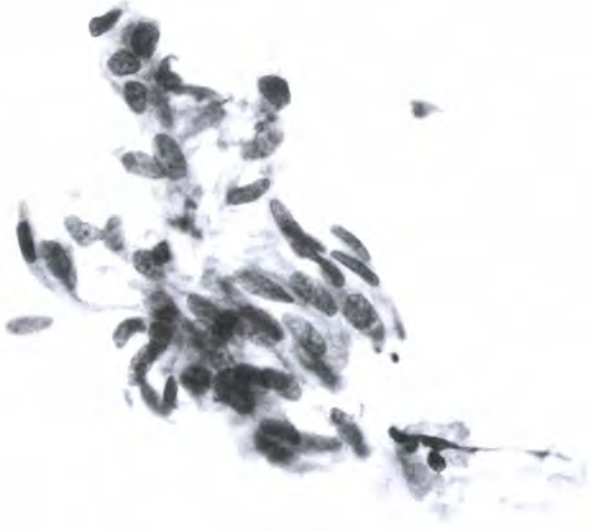

Fig. 4. A cluster of spindle cells from the endocervical cytology specimen resembles mesenchymal cells. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

interpreted as microcytic hypochromic anemia and no tumor markers were examined. Endometrial and endocervical cytological procedures were subsequently performed.

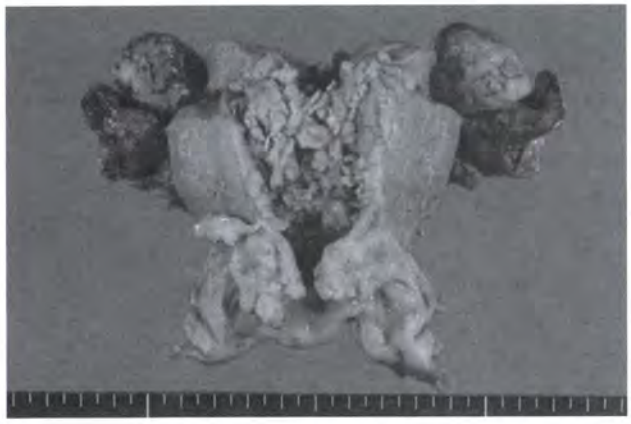

Fig. 5. The resected uterus with a 5.0 × 4.0 cm papillary lesion in the corpus and a 3.0 × 2.5 cm polypoid mass in the cervix. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

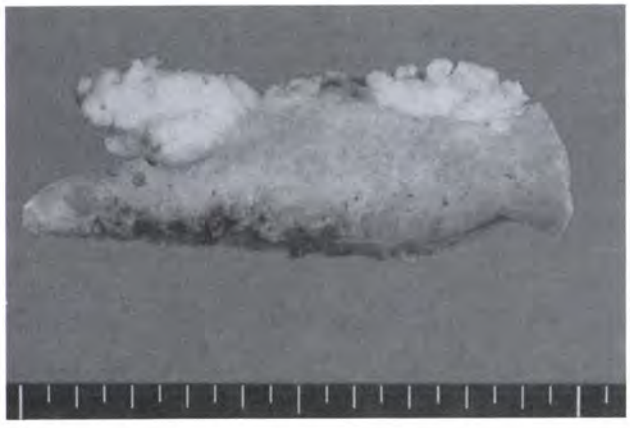

Fig. 6. Macroscopic findings of the cut surface of the uterus. Two grayish white solid masses are observed in the corpus and lower uterine segment. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Cytological Findings

The endometrial cytology specimen showed clusters of atypical endometrial cells with hemorrhagic and inflammatory background (Fig. 1). The cluster exhibited irregular aggregated arrangement accompanied by micropapillary and dendritic structures. Atypical projection of cells resembling endometrium during the proliferative phase was also noted. Each cell was small and hyperchromatic, and had high *N/C* ratio (Fig. 2), therefore, a diagnosis of CAH was made. The endocervical cytology specimen showed clusters of atypical columnar cells, sheet-like or palisading structures of squamous metaplasia, and an admixture of scattered or clusters of arrangements of spindle cells (Fig. 3). Although these cells showed high *N/C* ratio and hyperchromatin, nucleoli were not prominent and the projection of nuclei was not observed (Fig. 4).

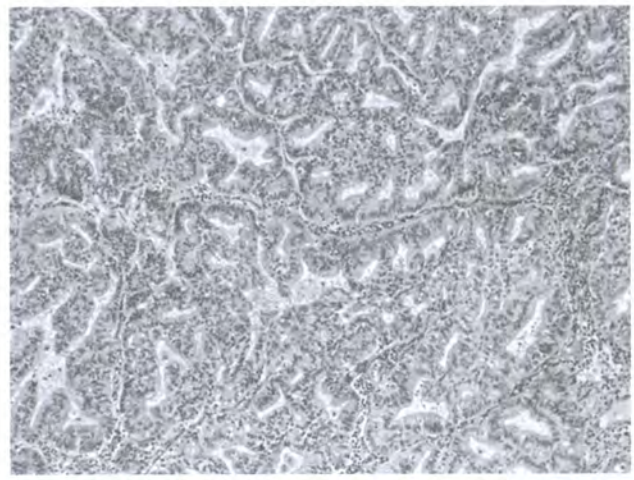

Fig. 7. Endometrial lesion shows a compact arrangement of atypical glands with papillary proliferation interposed by narrow stroma. Foci of back-to-back glands or cribriform arrangement of glands are noted. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

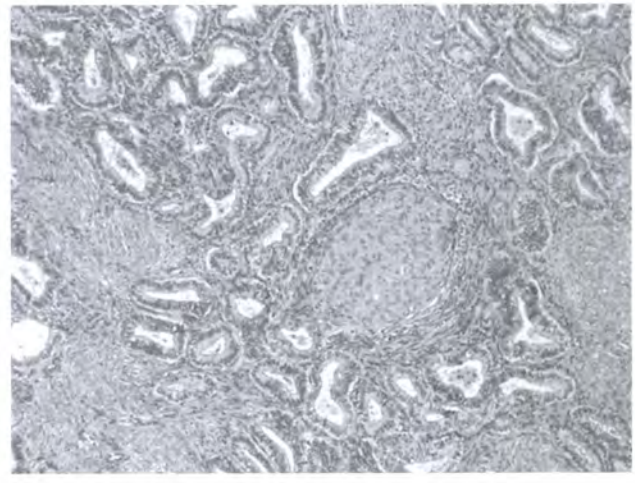

Fig. 8. Lower uterine lesion composed of variably-sized glands and stromal cells, accompanied by prominent mulberry-like squamous metaplasia. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Therefore, they were diagnosed as benign atypical cells, and a diagnosis of APA was not obtained.

Gross, Histological, Intraoperative Cytological, and Immunocytochemical Findings

Gross Findings

Hysterectomy was performed and the resected uterus was 11 × 8.2 × 3.5 cm in size, with a 5.0 × 4.0 cm papillary lesion in the corpus and a 3.0 × 2.5 cm grayish-white polypoid mass in the lower uterine segment (Fig. 5). Both lesions exhibited grayish-white solid masses on the cut surface (Fig. 6).

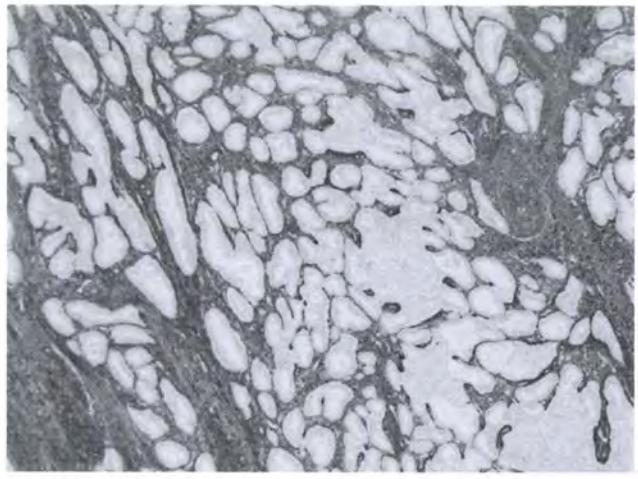

Fig. 9. The stromal cells of APA are strongly positive for alpha-smooth muscle actin. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

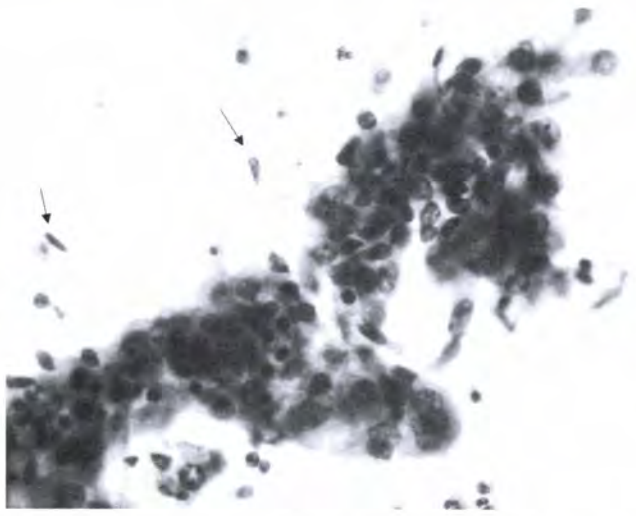

Fig. 10. Intraoperative cytology of the lower uterine lesion shows atypical columnar epithelium and stromal cells (arrows) with scant squamous epithelium in the slightly inflamed background. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Histological Findings

The larger endometrial lesion exhibited a compact arrangement of atypical glands with papillary proliferation. Narrow stromas were interspersed between the proliferating glands, and the pseudo-stratified nuclei showed mild anisokaryosis (Fig. 7). Therefore, a diagnosis of CAH was made, but since the foci of back-to-back glands or cribriform arrangement of glands were scattered (Fig. 7), a differential diagnosis of endometrial adenocarcinoma, G1, was suspected. The mass in the lower uterine segment was composed of variably-sized, bifurcated glands, and stromal cells chiefly of smooth muscle origin. The glands were comprised of cytologically atypical cells

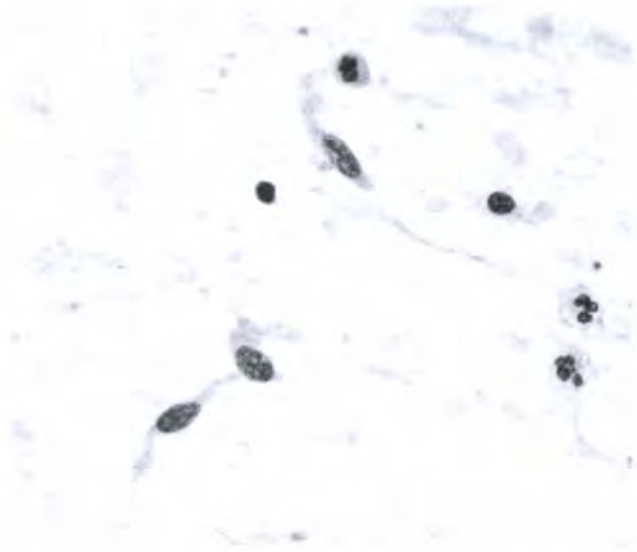

Fig. 11. High-power field of Figure 10 shows increased number of spindle stromal cells. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Fig. 12. Spindle cells in the initial endocervical cytology specimen are positive for alpha-smooth muscle actin. [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

and were accompanied by prominent mulberry-like squamous metaplasia, whereas the stromal cells showed no atypia (Fig. 8). Therefore, the second lesion was diagnosed as APA. Immunohistochemically, the stromal cells were positive for alpha-smooth muscle actin (Fig. 9) but negative for CD10. Normal endometrial tissue interposed between the two lesions.

Intraoperative Cytological and Immunocytochemical Findings

Intraoperative Pap smears of both lesions were performed. The endometrial lesion showed a scattered, compact clus-

Table I. Differential Diagnosis of APA in Endometrial Cytology Specimen

	Epithelial components		*Stromal components*			
	Cytological atypia	*Proliferation*	*Cytological atypia*	*Proliferation*	*Other findings*	*Background*
APA	+	+	–	+	Squamous metaplasia Morule formation	Clear
Reactive[a]	+/–	–	–	–		Clear/inflammatory
CAH	+	+	–	–	Papillary cluster	Clear/inflammatory
Well differentiated EM adenocarcinoma	++	+	–	–	Cribriforming Back to back glands	Necrotic/inflammatory
Adenosarcoma	–	+	+	+		Necrotic/inflammatory
Carcinosarcoma	++	+	++	+		Necrotic/inflammatory

APA, Atypical polypoid adenomyoma; CAH, complex atypical endometrial hyperplasia; EM, endometrial; –, absent; +, present; ++, prominent.
[a]Distorted endometrium due to receiving estrogen replacement therapy, intrauterine device, etc.

ter of stratified endometrial glands with a small amount of endometrial stromal cells, which was interpreted as CAH. The lower uterine lesion demonstrated atypical columnar epithelium and spindle stromal cells with scant squamous epithelium in the relatively clear background (Figs. 10 and 11). These findings were compatible with APA. Immunocytochemically, spindle cells in the initial endocervical cytology specimen were positive for alpha-smooth muscle actin (Fig. 12).

Discussion

We show in this report a middle-aged woman who presented with APA in the lower uterine segment and CAH in the uterine corpus. These two lesions were interpreted as developing from different pathogenesis because there was no continuity between them. Although an initial diagnosis of APA from the original endocervical cytology specimen was not made, the cytological assessement of the intraoperative sample was consistent with APA. Retrospectively, the same types of cells were found in the original material. Nevertheless, to reach the correct diagnosis from the beginning would have been difficult, partly because the presence of CAH complicated the present case and the reports on the cytology of APA are scant. As far as we know, this is the first cytological case presentation of the association of APA with CAH in the uterus.

APA is classified as a benign mixed epithelial and mesenchymal tumor, and exhibits biphasic proliferation of endometrial glands within a stromal component. The former is accompanied by irregular bifurcation of cytologically atypical endometrial cells, and the latter is mainly composed of smooth muscle cells. This disease occurs mainly in younger (around 40-years of age), nulliparous, and premenopausal woman. It presents most frequently as a pedunculated or sessile polypoid mass in the lower uterine segment.[5] Recently, lack of CD10 expression in the myofibromatous stroma of APA has been reported.[7] The present case is in accordance with the epidemiology, clinicopathology, and immunologic findings of APA thus far mentioned. Although the etiology and pathogenesis of APA are uncertain, prolonged estrogenic stimulation of an endometrial stromal progenitor cell is likely to be involved. This is partly because it occurs almost exclusively in premenopausal woman and frequently in patients with Turner's syndrome and on long-term estrogen replacement therapy. Further, most APA tissue are positive for estrogen and progesterone receptors.[4,5] It is usually regarded as benign, but endometrial adenocarcinomas arising from APAs have been reported.[3] Further, a report by a systematic review of the literature shows that the average risk of subsequent occurrence of endometrial carcinoma in women with APA is 8.8%, which is higher than those with endometrial polyps, although lower than those with CAH.[2] Although little is known about the genetic alteration of APA, it has been suggested that APA and CAH share some molecular alterations by DNA analysis.[8] Therefore, the clinical significance of APA is being currently reevaluated.

Another unique point of the present case is that the APA and CAH segments did not show any area of transition. The few reported cases of APA with coexistent adenocarcinoma or CAH were either cases which showed continuity with each other,[3,5] or uncertain cases because of the diagnostic procedure, notably only by curettage.[5] Foci of back-to-back glands or cribriform arrangement of glands in the present case correspond to adenocarcinoma in situ, as proposed by other authors.[9] It is well known that estrogen-related factors play an important role in the development of CAH and endometrial adenocarcinoma. Therefore, a common etiology between APA and CAH may have been involved in the present case, although the two lesions were not linked.

Cytological features of APA have not been clarified yet. To our knowledge, only two cases have been reported in the English literature. One study presented a cervical smear with only the epithelial component that was compatible with the cytological criteria for adenocarcinoma in situ.[10] The other study presented an intraoperative cytology specimen only because the results of the uterine smear and biopsy were normal.[6] The cytological

appearances of the intraoperative surgical smears as well as the endocervical smear in the present case are very similar to those reported by Kimura et al.[6] The present case is the first study to demonstrate an endocervical smear containing both epithelial and stromal components. Based on the results from the present case, our experience, and the literature,[11] the differential diagnosis of APA using cytological material was conceived (Table I). We propose that if benign but atypical columnar cells with an admixture of morules and proliferation of stromal cells are observed, careful diagnosis, bearing APA in mind, is advisable.

Acknowledgments

The authors thank Dr. Yuichi Terado for his skillful editing of the figures.

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Synchronous Ipsilateral Warthin Tumor Encased by a Separate Mucoepidermoid Carcinoma of the Parotid Gland:

A Case Report and Review of the Literature

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Fine-needle aspiration (FNA) is a cost effective and low morbidity procedure in the initial assessment of salivary gland tumors. However, cytological assessment of ipsilateral synchronous tumors (which make up less than 0.3% of all salivary gland neoplasms) may pose diagnostic challenges. Therefore, a wholesome approach, including FNA with clinical and radiological correlation, is of utmost importance. Here, we report a unique case of Warthin tumor encased by a separate high-grade mucoepidermoid carcinoma that was first diagnosed on FNA. Another striking feature seen was the presence of chronic sialadenitis in the surrounding nonneoplastic salivary gland. The presence of two different neoplasms in the background of chronic sialadenitis raises the question of a possible causal relationship. Traditionally, there has been diagnostic difficulty when dealing with synchronous tumors of the salivary gland and the background of chronic sialadenitis may further complicate the diagnosis. FNA is very helpful and can give important cues to the diagnosis.
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Key Words: mucoepidermoid carcinoma; Warthin tumor; chronic sialadenitis; FNA; cytology; ipsilateral synchronous distinct neoplasms; parotid gland

Ipsilateral synchronous distinct neoplasms make up less than 0.3% of all salivary gland tumors.[1] Of these, only 27 cases, composed of synchronous benign and malignant parotid gland tumors, are reported (Table I). There is considerable overlap in the reported cases with regard to synchronous, separate Warthin tumor and mucoepidermoid carcinoma, and mucoepidermoid carcinoma arising in a Warthin tumor. Only two cases of ipsilateral synchronous Warthin tumor and mucoepidermoid carcinoma are well documented. One case reported by Curry et al. revealed a similar combination of neoplasms of unknown grade (of mucoepidermoid carcinoma) but identified in two separate lobes of the parotid gland.[1] Another case by Janecka et al. reported as a combination of Warthin tumor and a low-grade mucoepidermoid carcinoma, consisted of two widely separate nodules in the same lobe of the parotid gland.[7] Our case is a unique case of a Warthin tumor, which is completely encircled by a separate, high-grade mucoepidermoid carcinoma within the same lobe of the parotid gland that was first diagnosed by fine-needle aspiration (FNA).

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Case Report

A 52-year-old man presented to the ear, nose, and throat clinic with a 5 year history of a right parotid mass that rapidly increased in size within the last year. He denied facial twitching, weakness, pain, paresthesias, or trismus. His head and neck examination was notable for a 3.5 cm firm, mobile, nontender, right parotid mass. His social history was negative for smoking and alcohol.

Ultrasonography (USG) of the right neck showed a well-defined, partly solid, and partly cystic lesion (2.7 × 1.6 cm) in the right parotid gland. In addition, adjacent to this lesion another oval, solid lesion (2.2 × 1.0 cm), possibly an intra-parotid lymph node, was noted.

CT scan of the neck showed a large, ill-defined, infiltrative, complex appearing, mixed solid, and cystic mass involving the right parotid gland with a superolateral solid component (2.4 cm) and inferomedial multiloculated cystic component (2.25 cm). A subtle infiltration along the posterior border of the right masseter muscle was noted. The tumor infiltrated to the junction between the

Table I. Synchronous Ipsilateral Separate Benign and Malignant Tumors Reported in the Literature

Author	*Year*	*Number of cases*	*Tumor combinations*	*Age*	*Gender*
Turnbull AD[2]	1969	2	1. Warthin's tumor and malignant mixed tumor	—	—
			2. Benign mixed tumor and adenocarcinoma	—	—
Bab IA[3]	1979	2	1. Sebaceous cell adenoma and adenoid cystic carcinoma	6th decade	F
			2. Oncocytoma and carcinoma ex pleomorphic adenoma	6th decade	F
Bird RJ[4]	1979	1	Warthin's tumor and acinic cell carcinoma	—	—
Pontilena N[5]	1979	1	Benign mixed tumor and mucoepidermoid carcinoma	45	F
Volmer J[6]	1982	1	Warthin's tumor and squamous cell carcinoma	85	F
Janeka IP[7]	1983	3	1. Benign mixed tumor and low grade mucoepidermoid carcinoma	45	F
			2. Warthin's tumor and adenocarcinoma	64	M
			3. Warthin's tumor and moderately differentiated mucoepidermoid carcinoma	58	M
Gnepp DR[8]	1989	5	1. Warthin's tumor and mucoepidermoid carcinoma	60	M
			2. Warthin's tumor and acinic cell carcinoma	84	M
			3. Warthin's tumor and acinic cell carcinoma	56	M
			4. Warthin's tumor and ductal adenocarcinoma	69	M
			5. Warthin's tumor and adenoid cystic carcinoma	66	M
Hanada T[9]	1995	1	Myoepithelioma and adenoid cystic carcinoma	71	F
Misselevich I[10]	1997	1	Pleomorphic adenoma and acinic cell carcinoma	44	F
Mayorga M[11]	1999	1	Sebaceous lymphadenoma and acinic cell adenocarcinoma	78	F
Curry JL[1]	2002	2	1. Pleomorphic adenoma and salivary duct carcinoma	67	F
			2. Warthin's tumor and mucoepidermoid carcinoma	51	F
Zeerbregts CJ[12]	2003	1	Pleomorphic adenoma and acinic cell carcinoma	—	—
Shukla M[13]	2003	1	Sebaceous lymphadenoma and squamous cell carcinoma	68	F
Bień S[14]	2006	3	1. Pleomorphic adenoma and adenocarcinoma	—	—
			2. Pleomorphic adenoma and adenocarcinoma	—	—
			3. Pleomorphic adenoma and salivary duct carcinoma	—	—
Tanaka S[15]	2007	1	Pleomorphic adenoma, Warthin's tumor and salivary duct carcinoma	67	M
Roh JL[16]	2007	1	Warthin's tumor and adenoc arcinoma	71	M

deep and superficial lobe of the parotid gland. PET scan showed a hypermetabolic mass in the right parotid gland confined to the superficial lobe. Mild tracer uptake was also demonstrated in level IIa lymph nodes at the level of the angle of mandible on the right side. The radiological findings were suggestive of a parotid neoplasm, with a differential diagnosis including mucoepidermoid carcinoma, adenoid cystic neoplasm, Warthin tumor, and pleomorphic adenoma or lymphoepithelial cyst. FNA was ordered.

FNA Cytology

At the time of the FNA, physical examination by the pathologist revealed two fused, boggy-firm masses (3 × 1.5 cm). Several passes from different areas yielded a cloudy, brown fluid, which on microscopic examination showed oncocytic epithelium in close association with lymphocytes (Fig. C-1) and overlapping groups of highly atypical cells (Fig. C-2). Cytological diagnosis was oncocytes, lymphocytes, and atypical cells suspicious for malignancy, with a comment that, "Oncocytic epithelium in a cystic lymphocytic background points towards a diagnosis of Warthin tumor. However, the presence of highly atypical cells raises the possibility of malignant transformation of a Warthin tumor versus a separate concurrent malignancy. A complete excision of the lesion is recommended." A right superficial parotidectomy with deep lobe biopsy was performed and submitted for pathologic examination.

Pathologic Findings

The right superficial parotidectomy specimen consisted of a single piece of the superficial lobe of the parotid gland and measured 6.5 × 4.5 × 1.5 cm. Serial sections of the superficial lobe revealed a cystic cavity near one pole, measuring 1.2 × 1 × 1 cm, that was filled with golden yellow viscous material. The remaining sections showed a pale yellow, central area surrounded by a tan-pink rim. No other discrete tumor masses were identified during gross examination of the lobe. The tissue was entirely submitted for histopathologic examination.

Microscopic examination showed cystic spaces lined by a double layer of cuboidal to tall columnar, eosinophilic, oncocytic epithelial cells with ovoid nuclei. The cytoplasm of the columnar cells was fine and granular and there were smaller basaloid cells present beneath them. The stroma was composed of abundant lymphoid tissue. These findings were diagnostic of Warthin tumor. Surrounding, but not arising from the Warthin tumor was another neoplasm, measuring 1.8 × 1.1 cm, predominantly composed of sheets and solid nests of highly atypical, large epidermoid cells displaying moderate nuclear pleomorphism, mitotic figures as well as a few intermediate cells (Fig. C-3). Occasional mucous cells lining cystic spaces were also identified and were positive for mucincarmine. A diagnosis of a high-grade mucoepidermoid carcinoma with perineural invasion was rendered (AFIP grading system, score of 11).[17–19]

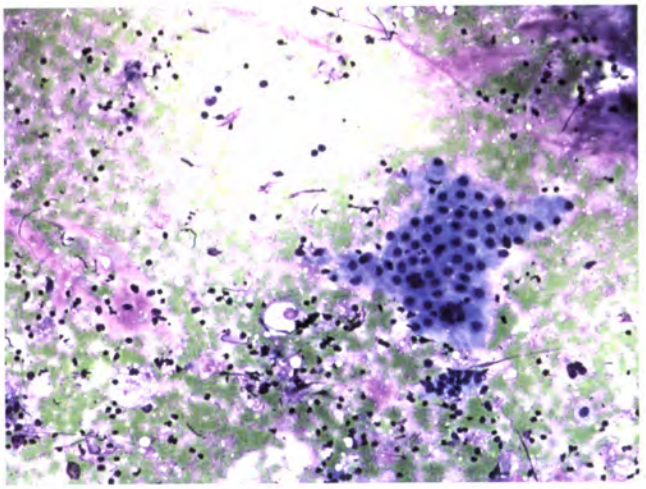

Fig. C-1

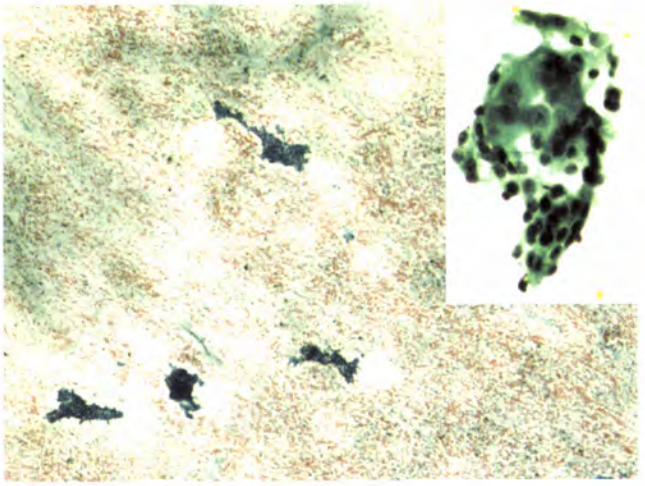

Fig. C-2

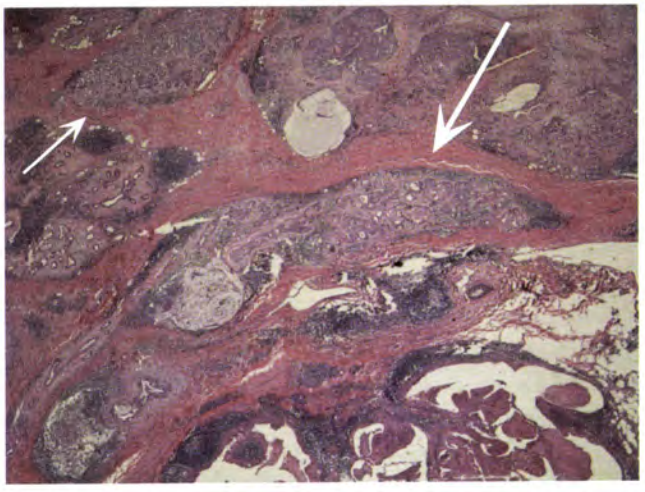

Fig. C-3

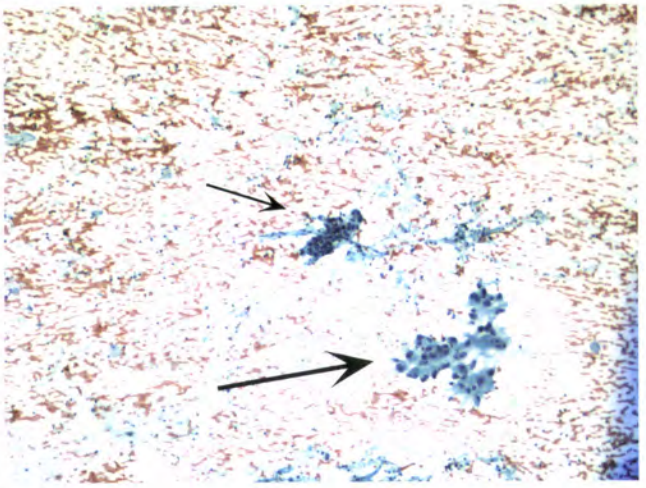

Fig. C-4

Figs. C-1–C-4. Fig. C-1. Fine-needle aspiration smear of Warthin tumor showing flat, cohesive sheets of oncocytic epithelium, and lymphocytes scattered in a cystic background (Diff-Quik, ×20). **Fig. C-2.** Fine-needle aspiration smear of high-grade mucoepidermoid carcinoma showing markedly atypical, overlapping, and epidermoid cells. In the inset, a group of cells showing significant nuclear enlargement, hyperchromasia, prominent nucleoli, and polymorphism (Papanicolaou, original magnification ×4, inset ×20). **Fig. C-3.** Photomicrograph of the Warthin tumor (right lower corner) surrounded by peripheral rim of mucoepidermoid carcinoma (large arrow) separated by a thin fibrous capsule and the background of chronic sialadenitis (small arrow) (H&E, ×10). **Fig. C-4.** Fine-needle aspiration smear showing oncocytic epithelium in close association with lymphocytes (small arrow) and groups of highly atypical cells with large nuclei and prominent nucleoli (large arrow) (Papanicolaou, ×10).

In the surrounding nonneoplastic tissue, ductal structures showed sialometaplasia in a background of chronic sialadenitis (Fig. C-3). Also, in close proximity to the mucoepidermoid carcinoma, there were areas of ductal epithelium with high-grade dysplasia and in situ components evolving into frank malignancy. Because the tumor was incompletely excised, the patient underwent re-excision of the residual tumor in the deep lobe.

Discussion

The parotid gland is the most common site for neoplasms involving major salivary glands.[20] Often FNA is used as the first step to diagnose salivary gland masses. The majority of parotid gland tumors are unifocal, unilateral, and histologically single neoplasms. Synchronous tumors arising in the major salivary glands are very unusual. Ours is a unique case of a Warthin tumor completely encircled by a separate, high-grade mucoepidermoid carcinoma within the same lobe of the parotid gland with coexisting chronic inflammation, which poses a diagnostic challenge on FNA.

In the case reported here, the patient developed the parotid gland neoplasm in the absence of prior history of smoking or radiation. He had right parotid swelling for 5 years before he noticed a rapid increase in the size of the swelling. CT scan of the neck showed a large, ill-

defined, infiltrative, complex appearing, mixed, solid, and cystic mass involving the right parotid gland with a superolateral solid component and inferomedial multiloculated cystic component. At the time of the FNA, physical examination revealed two, fused, boggy-firm masses (3 × 1.5 cm). The aspiration material was a cloudy brown fluid, which on microscopic examination showed oncocytic epithelium in close association with lymphocytes (Fig. C-1) as well as sheets and groups of highly atypical cells (Fig. C-2).

Histological examination revealed a Warthin tumor, which was completely encircled by the mucoepidermoid carcinoma, but no transition was identified between the two neoplasms. This supports their synchronous independent existence. Another striking finding was the presence of chronic sialadenitis in the nonneoplastic salivary gland surrounding the two neoplasms (Fig. C-3). Chronic sialadenitis was characterized by patchy infiltration of the salivary gland by lymphocytes and plasma cells along with areas of acinar atrophy surrounded by fibrosis, ductal dilation, ductal hypertrophy, and hyperplasia. Areas of ductal epithelium showing squamous metaplasia and dysplasia with in situ carcinoma-like components were seen in very close proximity to the mucoepidermoid carcinoma. These findings suggest that there may be a possible association between the three histopathologic entities. It is possible that the long standing presence of a Warthin tumor may give rise to chronic obstructive sialadenitis in the surrounding gland.[21–23] Long standing chronic sialadenitis can give rise to ductal metaplasia, then dysplasia, followed by carcinoma.[24,25]

Warthin tumor is boggy on physical examination because of fluid filled cystic spaces. Sonographically Warthin tumor appears rounded or lobulated and may demonstrate cystic change with hyperechoic internal septation.[26] Mucoepidermoid carcinoma usually presents as solitary, painless, and gradually progressive mass. USG demonstrates an ill-defined, hypoechoic mass of heterogeneous internal architecture.[26] High-resolution ultrasound combined with FNA provides a cost effective and minimally invasive tool in the initial assessment.

The CT scan appearance of Warthin tumor is that of a homogeneous, well-circumscribed mass in the parotid gland, frequently with hypodense or cystic areas.[27] The diagnosis of malignant tumor, such as mucoepidermoid carcinoma, is based on ill-defined, heterogeneously enhancing mass. Invasion is suggested by loss of fat plane between the mass and the masseter muscle.[26] The important diagnostic features of a Warthin tumor on FNA are flat cohesive sheets of oncocytes and lymphocytes scattered in a cystic background.[28] Warthin tumors may sometimes have foam cells and mucinous metaplasia as well as some precipitated material that can resemble extracellular mucus. In this situation, an oncocyte deficient specimen can be confused with low-grade mucoepidermoid carcinoma.[29–31] Squamous metaplasia is also seen commonly in Warthin tumors, which if associated with cytological atypia can be confused with mucoepidermoid carcinoma.[32] Thus, it is difficult to make a diagnosis of two separate tumors.

In this case, within the same field, a stark contrast can be seen between classical components of the Warthin tumor, i.e., flat sheets of uniform oncocytes, and the high-grade mucoepidermoid carcinoma, with markedly atypical, overlapping epidermoid cells with significant nuclear enlargement, hyperchromasia, prominent nucleoli, and prominent polymorphism (Fig. C-4). High-grade mucoepidermoid carcinomas are often recognized as non-small cell carcinomas, even if specific classification as mucoepidermoid is not achieved.[33] The cytological diagnosis is more accurate in intermediate-grade and high-grade mucoepidermoid carcinoma when compared to low-grade mucoepidermoid carcinoma.[34]

Stewart et al. reported 98% diagnostic accuracy of FNA cytology in detecting salivary gland neoplasms (97% for benign tumors and 87% for malignant tumors).[35] Califano et al. also reported similar results.[36] Overall sensitivity of FNA in discriminating between benign and malignant salivary gland neoplasms has ranged from 93.3 to 95.7% with a specificity ranging from 98 to 100%.[37–39] The lesions most frequently misdiagnosed are pleomorphic adenoma, mucoepidermoid carcinoma, chronic sialadenitis, and malignant lymphoma.[40] Low-grade mucoepidermoid carcinoma can be confused with chronic sialadenitis, mucous retention cyst, and Warthin tumor.[32,40] High-grade mucoepidermoid carcinoma needs to be differentiated from squamous cell carcinoma, adenocarcinoma, and undifferentiated carcinoma.[32] Clinical and radiologic examinations alone are unable to yield definitive diagnosis. The salivary gland masses need a combined approach, which includes the clinical presentation, physical examination, radiologic findings, and FNA, to render accurate diagnosis and formulate an appropriate treatment plan.

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TIMELY REVIEW
Section Editor: Zubair Baloch, M.D., Ph.D.

Anal–Rectal Cytology: A Review

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The incidence of invasive anal squamous cell carcinoma, a human papilloma virus (HPV) related cancer, is on the rise, especially in HIV positive men who have sex with men (MSM). Like cervical cancer, anal cancer is associated with precursor lesions detectable on exfoliative cytology as squamous intraepithelial lesions and on biopsy as intraepithelial neoplasia. Anal–rectal cytology screening programs, similar to cervical cytology screening programs, have been developed in an effort to detect and to eradicate precursor lesions prior to progression to invasive squamous cell carcinoma. Either conventional or liquid-based anal–rectal cytology specimens are acceptable, but liquid-based specimens are preferred. Specimens may be collected by health care professionals or by patients. A minimum of 2,000–3,000 nucleate squamous cells should comprise adequate specimens. Diagnostic terminology as defined by the Bethesda System for Reporting Cervical Cytology (TBS 2001) should be used. Sensitivity and specificity of a single anal–rectal cytology specimen is comparable with that of a single cervical cytology test, but cytological interpretations do not always correlate with lesion severity. Patients with atypical squamous cells of undetermined significance (ASC-US) or worse should be referred for anoscopy. Diagn. Cytopathol. 2010;38:538–546.

Key Words: anal cytology; HPV; AIN; squamous cell carcinoma

Invasive squamous cell carcinoma of the cervix and the anus have both been associated with human papillomavirus (HPV) infections, specifically high-risk HPV viral types such as HPV 16 and HPV 18 among others. Fortunately, detectable HPV-related intraepithelial neoplastic precursor lesions occur in the squamo-columnar transitional zone of the cervix and in the anorectal transformation zone of the anal canal before development of invasive squamous cell carcinomas. Therefore, the goal of both cervical and anal cancer cytological screening programs is to detect such precursor lesions, specifically high-grade squamous intraepithelial lesions (HSILs), and to eradicate them as clinically indicated to prevent progression to invasive squamous cell carcinoma.

Cervical screening programs within the United States have become commonplace over the past 50–60 years, and the incidence of invasive squamous cell carcinoma of the cervix has decreased from ~35–40/100,000 prior to implementation of screening to 8/100,000 more recently. Much of this decrease has been attributed to the success of the cervical screening program. Anal screening programs may generate comparable success. Anal cytology screening programs first appeared more than a decade ago and slowly gained momentum throughout the United States and Europe especially in urban populations and academic centers. As anal cytology programs become increasingly utilized, clinical information amasses. The purpose of this article is to review the literature and to synthesize a statement of the current body of knowledge regarding anal cytology.

Epidemiology

Anal cancer is a HPV-associated carcinoma[1] affecting the anorectal transformation zone within the anal canal which extends from the anal verge to the rectal mucosa. Approximately 4,650 incident cases (2,750 women and 1,900 men) were diagnosed in the United States in 2007.[2,3] Typically, women are more frequently affected than men. However, since 1973 the incidence of anal cancer in the United States has increased, particularly in men.[4,5] Although this is a rare disease within the general population, subpopulations of men and women are at increased risk for developing anal cancer because they harbor increased HPV infections, specifically men and women infected with HIV[6] and men who have sex with men (MSM).[7–9] In HIV negative MSM, estimated rates are as

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high as 37/100,000,[10] comparable with that of cervical cancer prior to implementation of routine pap screening for all women. The incidence of anal cancer in HIV positive MSM is estimated to be two times that of HIV negative MSM.[11] It is unclear how widespread use of highly active antiretroviral treatment (HAART) in HIV positive patients will affect the incidence and prevalence of AIN. Since HAART was introduced, the incidence of anal cancer has increased, and the female to male ratio has decreased.[12] One study showed that HAART had little effect on ASIL and on anal HPV infection during the first 6 months of therapy.[13] Other studies have shown high rates of squamous intraepithelial lesions (SILs), including high-grade lesions, and anal HPV infection despite HAART.[14,15] These findings suggest that HAART does not alter the prevalence of AIN in HIV positive MSM. The recent availability of the HPV vaccine adds an additional layer of complexity. It is unclear how the HPV vaccine might alter the disease course and affect incidence and prevalence in vaccinated women and unvaccinated men.

The most significant risk factor for development of anal intraepithelial neoplasia (AIN) and anal cancer is HPV infection.[1,16,17] Like their cervical counterpart lesions, anal HPV-related lesions most commonly harbor HPV types 6, 11, 16, and 18.[18–20] Other risk factors include: receptive anal intercourse,[10,21,22] history of sexually transmitted disease,[1,10,21] number of lifetime sexual partners,[1,21,23] history of cervical, vulvar, or vaginal cancer,[21,24,25] HIV status,[21,26–28] lower CD4 counts,[9,23] immunosuppression after solid-organ transplantation,[21,29] and current cigarette smoking.[10,21,30]

Histological Evaluation of Anal Intraepithelial Neoplasia

HPV-related lesions of the anus are histologically classified using the intraepithelial neoplasia grading system. The morphological features and pathological diagnoses utilized for anal canal lesions are similar to other sites of the female lower genital tract such as the cervix. First described by Fenger et al., AIN was identified in anal mucosa adjacent to invasive squamous cell carcinoma of the anal canal.[31,32] AIN is subcategorized based on perceived severity and is graded as 1, 2, or 3, which corresponds to mild, moderate, and severe/carcinoma-in situ, respectively. Histological diagnosis is currently considered the gold standard of diagnosis.

Differentiation between grades 1 through 3 is based on qualitative and quantitative evaluation of several morphological features including cytological atypia, squamous maturation/differentiation, and mitotic activity. AIN 1 is characterized by an expansion of the parabasal cell layer involving the lower third of the epithelium with associated cytological abnormalities. Increased nucleus:cytoplasm (N:C) ratio, hyperchromasia, and nuclear membrane irregularities can all be appreciated. Nucleoli are typically inconspicuous. Mitotic activity is minimal and is confined to the lower third of the epithelium. Atypical mitotic figures are not seen. Squamous maturation and differentiation is preserved above the abnormal parabasal cells although the nuclei may be enlarged and minimally atypical. In AIN 2 lesions, the abnormal expansion of parabasal cells extends midway into the epithelium. Increased mitotic activity is identified, and rare atypical mitotic figures can be seen. Maturation and differentiation of the upper epithelium is preserved. Expansion of abnormal parabasal-like cells extends into the upper third of the epithelium in AIN 3 (Fig. 1). Cytological abnormalities are diffuse within the affected area. Increased mitotic activity and abnormal mitotic forms are readily identified. Little to no squamous maturation and differentiation is observed. Cells with koilocytic change can be seen in any lesion within the superficial layers of the epithelium and are characterized by discreet cytoplasmic crypts that encircle one or multiple hyperchromatic, enlarged nuclei with abnormal nuclear membranes.

Prognosis

HPV-associated lesions of the cervix are dynamic lesions that may regress to normal, persist as intraepithelial neoplastic lesions, or progress to invasive squamous cell carcinoma.[33] HPV-associated lesions of the anal canal are thought to behave biologically similarly to their counterpart cervical lesions, but data are scant.

Little is known about the progression rates of AIN lesions to invasive carcinoma. Low-grade lesions, if untreated, often progress to high-grade lesions, especially in HIV positive men. In 37 HIV positive homosexual men followed an average of 17 months, an increase of cytological abnormalities, increased incidence of AIN, increased high-grade AIN, increased proportion with HPV infections, and increased numbers of men with multiple HPV viral types were detected.[34] In another study, during a 2-year period 62% of HIV positive and 36% of HIV negative men with LSIL at baseline progressed to HSIL, but none progressed to invasive carcinoma.[35] The transit time of high-grade cervical intraepithelial neoplasia (CIN) is prolonged, ~10–20 years. It is assumed that the time to progression of high-grade lesions in the anal canal requires several years like in the cervix, but data are lacking. Progression from high-grade AIN to invasive squamous cell carcinoma has been documented in two studies. Three of 35 patients diagnosed and treated for AIN 3 developed invasive squamous cell carcinoma after a median of 63 months follow-up.[36] All three patients were immunocompromised. None of the immunocompetent patients developed an invasive carcinoma during the follow-up period. In another study, a high rate of progression

to invasive carcinoma (11%) despite treatment and surveillance was detected in a cohort of 72 patients during an 8-year study period.[37] Clearly, a percentage of high-grade AIN lesions do progress to invasive squamous cell carcinoma, and the progression rate may be similar to that observed in the cervix.

Even less understood is the regression rate. A percentage of lesions do regress, however, and regression rates may be influenced by HIV status. The latter is supported by one study which reported higher regression rates in HIV negative men than in HIV positive men.[35]

Screening

Who should be screened? This is a controversial topic, and formal guidelines recommending anal cytology screening have not been adopted. Those who support the concept of anal screening programs would agree that all HIV positive MSM should be screened. Additional groups of patients such as HIV negative MSM, all HIV positive men regardless of sexual practices, HIV positive women, and men and women with non-HIV immunosuppression, may also benefit.

Even though no prospective study has documented the clinical effectiveness of exfoliative cytological screening methods for anus squamous intraepithelial lesions, anal cytology screening programs might enable detection of small lesions, treatment, and eradication of high-grade intraepithelial lesions, and careful monitoring to detect early invasive carcinomas.

The economic burden of noncervical HPV related disease is significant; anogenital warts, precursor lesions, and cancers account for more than half the cost.[38] Cost-effectiveness analyses have shown that screening HIV positive and HIV negative homosexual and bisexual men offers quality-adjusted life expectancy benefits.[39,40] For HIV positive homosexual and bisexual men, screening intervals of every year is preferred.[39] Screening every 2 or 3 years would produce life-expectancy benefits in HIV negative homosexual and bisexual men.[40]

Collection Techniques

Anal cytology specimens should sample the entire anal canal including the keratinized and nonkeratinized squamous epithelium and the anorectal transformation zone. The technique is easily performed using the methods first described by Palefsky et al.[41] From the lateral recumbent position, the specimen can be collected. In women, the dorsal lithotomy position may also be used. Various sampling devices historically have been utilized, but experience suggests that the Dacron swab is the collection device of choice. A moistened Dacron swab is better tolerated by patients, and the Dacron swab may release more cells for cytological evaluation as compared with a cotton swab. The Dacron swab is blindly inserted ~5–6 cm into the anal canal to adequately sample the anorectal transformation zone. Firm pressure is used to press the sampling device against the anorectal mucosa. Slowly, the swab is rotated in a spiral pattern while maintaining firm pressure against the mucosa until the device exits the anal verge. The cells are quickly fixed either on a slide for a conventional smear or in a liquid medium for liquid-based cytology.

Anal cytology specimens can be collected by clinicians and patients alike. Lampinen et al. suggest specimen adequacy may be achieved less frequently when specimens are self-collected, but the Palefsky et al. data suggests otherwise. Of note, different definitions were utilized to define specimen adequacy, which explains the disparate findings. The criteria used by Lampinen et al. required the presence of a minimum 5,000 nucleated squamous cells consistent with the adequacy guidelines for cervical cytology.[42] Whereas inadequate specimens in the Cranston et al. study had less than 2,000–3,000 nucleated squamous cells.[43] Interestingly, no significant differences were noted in sensitivity and specificity between the two methods.[43,44] Therefore, the test performed similarly regardless of who collected the specimen.

Specimens can be collected with or without anoscopic visualization of the mucosa. In a population of MSM, anal cytology specimens collected under anoscopic guidance were less likely to detect high-grade abnormalities and more likely to be considered unsatisfactory for evaluation as compared with blindly collected specimens.[45] That anal cytology specimens can be collected blindly by the patient may be an opportunity to provide anal screening to those who may not have received it otherwise.

Cytological Evaluation and Interpretation

Type of Preparation

Specimens may be prepared using conventional cytology methods or liquid-based cytology methods and that decision is made at the time the specimen is collected. Liquid-based cytology methods are preferred, however. A split sample comparison of conventional versus liquid-based cytology showed no significant difference in the cytological diagnoses, but liquid-based cytology preparations reduced obscuring factors such as fecal material, bacteria, and air-drying artifact.[46] In addition, residual liquid-based specimens can be used for ancillary studies, such as testing for high-risk HPV DNA.

Adequacy

Little has been published regarding minimum standards for anal–rectal cytology specimen adequacy, and requirements differ from study to study.[41,47–49] To date, adequacy requirements have not been specifically addressed in the literature. Most studies defer to the minimum

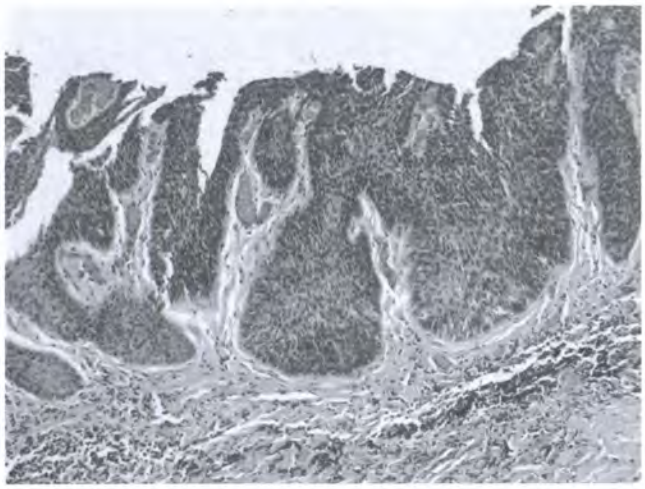

Fig. 1. AIN 3 (H&E, ×200). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

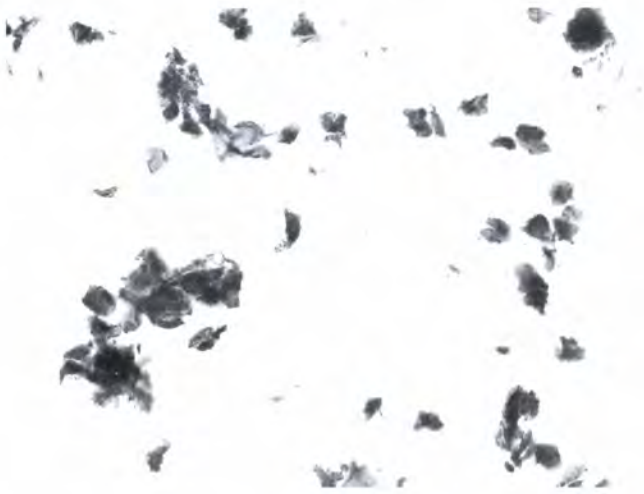

Fig. 2. Anal–rectal cytology specimen composed primarily of anucleate squamous cells with obscuring bacteria (Papanicolaou, ×200). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

requirements described in the Bethesda System for Reporting Cervical Cytology in 2001 (TBS 2001).[50]

Cellularity should be comparable with that of a cervical/vaginal sample. Per TBS 2001, minimum cellularity for conventional anal–rectal smears is 2,000–3,000 nucleate squamous cells. For liquid-based preparations, this is ~1–2 nucleated squamous cells per high-power field (hpf) for ThinPrep (Hologic, Bedford, MA) specimens and 3–6 nucleated squamous cells per hpf for SurePath (Becton Dickinson Company, Franklin Lakes, NJ) specimens. As with cervical/vaginal specimens, hypocellular specimens or specimens with insufficient nucleate squamous cells but with abnormal cells should be reported as satisfactory for evaluation but modified with an appropriate quality indicator. Rare samples are composed primarily of anucleate squamous cells; these specimens are unsatisfactory for evaluation (Fig. 2).

Fig. 3. Benign two-dimensional sheet of glandular cells (Papanicolaou, ×600). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Presence of transformation zone is not required for adequacy, but should be reported as a sampling indicator (Fig. 3). Evaluation can be limited by lack of cell preservation and obscuring elements, such as bacteria, inflammation, or fecal material. When the majority of nucleate squamous cell morphology is obscured, samples should be considered unsatisfactory for evaluation.

Diagnostic Terminology

Squamous intraepithelial lesions, squamous cell carcinomas, and other infectious organisms can be identified within anal–rectal cytology specimens. Terminology should parallel that of cervical/vaginal cytology as defined by TBS 2001.[50] Recommended interpretations include negative for intraepithelial lesion or malignancy (NILM) or epithelial cell abnormality, including atypical squamous cells of undetermined significance (ASC-US), atypical squamous cells cannot exclude HSIL (ASC-H), low-grade squamous intraepithelial lesion (LSIL), high-grade squamous intraepithelial lesion (HSIL), and squamous cell carcinoma.

Cytomorphology

Cytomorphology of the anal canal is similar to that of the cervix/vagina, and diagnostic criteria used for cervix/vagina specimens are applicable to anal specimens. In contrast to gynecological samples, anal samples commonly have abundant anucleate squamous cells. In addition, degenerative changes and obscuring materials are also more common. Transformation zone component, including glandular cells and squamous metaplasia, is frequently identified.

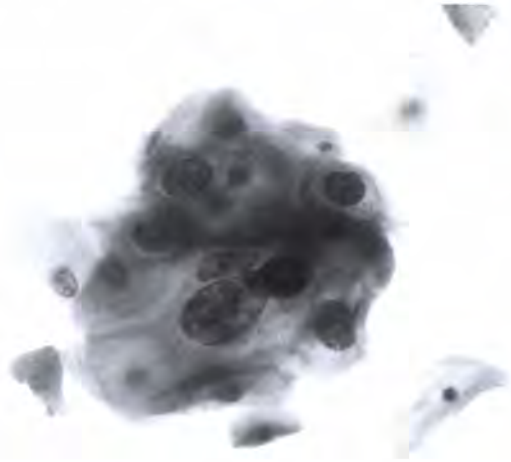

Fig. 4. LSIL (Papanicolaou, ×600). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Fig. 5. Candida (Papanicolaou, ×600). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

LSIL cells are large cells, similar to superficial and intermediate-type squamous cells, that commonly have eosinophilic or orangeophilic cytoplasm and are characterized by increased nucleus:cytoplasm (N:C) ratio, evenly distributed granular chromatin, and nuclear membrane irregularities[51]; koilocytes are infrequently identified in anal specimens[46,47,49,51,52] (Fig. 4). Cells diagnostic of HSIL are small, immature cells similar to metaplastic cells and have markedly increased N:C ratios, coarse chromatin, and irregular nuclear membranes.[51] When cytomorphological findings fall short of LSIL and HSIL, respectively, ASC-US and ASC-H are appropriate. Nucleoli are usually not observed in LSIL or HSIL, but can be seen in reactive/reparative lesions as well as in squamous cell carcinoma. Abnormal squamous cells with marked variation in size and shape and marked nuclear abnormalities typify squamous cell carcinoma. Atypical parakeratotic squamous cells are commonly identified and can be mistaken for squamous cell carcinoma.[51]

Fig. 6. Squamous cell with HSV cytopathic effect (Papanicolaou, ×600). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

Rarely, evidence of infectious organisms other than HPV can be seen and include fungal organisms such as Candida species (Fig. 5),[47] herpes simplex virus (HSV; Fig. 6),[51] and trichomonas.

Operational Statistics of Anal–Rectal Cytology

Several studies have evaluated the use of anal cytology for detection of squamous intraepithelial lesions (Table I).[41,47,49,51,53–58] Sensitivity is 42–98% while specificity is 16–96%, comparable with the sensitivity of a single cervical cytology test (sensitivity 75%; specificity 90%). Variations in sensitivity and specificity may be explained by sample size, disease prevalence, and definition of a positive cytology test (ASC-US+ or LSIL+). In addition, sensitivity and specificity vary based on HIV status.[60]

Anal cytology is a sensitive screening test, but cytological grade of disease may not correlate with the histological grade.[41,47,61] This may, in part, be attributed to the standard of comparison, anoscopic-guided biopsy. Anoscopic evaluation of the anorectal mucosa for acetowhite lesions is subjective, and small acetowhite areas may be overlooked due to small size of lesion, obscuring fecal material, or because they are "hidden" within folded mucosa. Further, pathological evaluation of anal biopsies is also subjective with moderate interobserver reproducibility.[62–64] Therefore, patients with positive cytology results but negative anoscopy and biopsy may have false-negative anoscopy/biopsy and should be carefully followed.

Is There a Role for HPV Testing?

Like in the cervix, the presence of HPV DNA in anal intraepithelial lesions and in anal squamous cell carci-

Table I. Sensitivity and Specificity of Anal–Rectal Cytology

Study	*Preparation*	*N*	*Population*	*Sensitivity*	*Specificity*
Velasco et al.[53]		45	MSM	78%	72%
de Ruiter et al.[49]	CS	154	MSM	88%	16%
Palefsky et al.[41]	CS	110 HIV+, 25 HIV−	MSM; HIV+ and HIV−	69% HIV+, 47% HIV−	59% HIV+, 92% HIV−
Lacey et al.[54]	CS	38	HIV+ MSM	78%	
Friedlander et al.[51]	LBP, CS	40	HIV+ and HIV− males and females	92%	50%
Panther et al.[55]		153	MSM; HIV+ and HIV−	93%	33%
Arain et al.[47]	LBP	71	Males; HIV+ and HIV−	98%	50%
Papaconstantinou et al.[56]	LBP	47	Patients with anal condyloma	42%	96%
Fox et al.[57]	CS	82	MSM; HIV+ and HIV−	83%	38%
Nadal et al.[58]		102	HIV+ males and females	74%	61%
Bean et al.[59]	LBP	36	HIV+	92%	8%

CS, conventional smear; MSM, men who have sex with men; HIV+, HIV infected; HIV−, HIV noninfected; LBP, liquid-based preparation.

noma has been well established, especially in HIV positive patients. To complement cervical cytology, qualitative HPV DNA testing using Hybrid Capture 2 test (Digene Corporation, Gaithersburg, MD) has become commonplace, and the presence of any one (or more) of 13 high-risk HPV viral types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, and 68 can be detected. HPV DNA testing in the context of the cervix can be performed as an adjunct to cytological diagnosis (especially in women older than 30 years) or can be used as a reflex test after ASC-US.

Whether there is a role for HPV DNA testing of anal specimens and in what clinical context (primary screening, as an adjunct to cytology, or as a reflex test) is less clear. The prevalence of HPV in the anal canal is higher in HIV positive patients than in HIV negative patients.[65,66] In one study, 76% of HIV infected patients tested positive for high-risk and/or low-risk HPV DNA,[67] and in another study, 84% of HIV infected participants were high-risk HPV DNA positive.[68] HPV DNA testing in HIV positive MSM, therefore, may not be clinically useful, especially given that the presence of high-risk HPV DNA does not necessarily mean that a patient will simultaneously harbor abnormal cytological findings.[57,68] To date, one study has evaluated the use of HPV DNA testing (without simultaneous cytology) as a primary screening tool and found that only HPV positive patients had AIN and/or squamous cell carcinoma.[69] However, data were subject to verification bias as HPV DNA negative patients did not undergo anoscopy and follow-up was not reported. In another study, the combined use of HPV DNA testing with cytology increased the sensitivity in an HIV positive study population.[56] Reflex HPV testing in a cohort of 118 patients found that 54.8% of ASC-US and 87.8% of LSIL were positive for high-risk HPV DNA types, and the authors suggested that reflex HPV DNA testing after ASC-US cytology may be helpful in triaging patients[67]; HIV status was not considered, however. Thus, though HPV DNA testing may be useful, additional studies including larger cohorts of patients and careful clinical follow-up are needed.

Is There a Role for p16?

p16 is a cyclin-dependent kinase inhibitor. In the setting of high-risk HPV infections in the uterine cervix and in the anal canal, p16 accumulates within the nucleus and cytoplasm in areas of intraepithelial neoplasia, detectable by immunohistochemistry. On anal histology specimens, p16 is a sensitive and specific marker,[70,71] and p16 expression correlates with HPV and AIN.[72] p16 improves diagnostic reproducibility with cervical biopsies[73] and with anal biopsies.[74] The utility of p16 for anal cytology specimens is less clear. To date, one study evaluated the use of p16 in 43 anal cytology specimens. When compared with the biopsy diagnosis, the sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) of p16 were 72, 71, 93, and 33%, respectively.[75] Thus, a positive p16 was highly predictive of dysplasia. These findings are encouraging, but the study was limited by a small number and the fact that original ThinPrep papanicolaou-stained slides were destained and restained with p16. In addition, cases of ASC-US or ASC-H were not evaluated. Additional data using kits optimized for cytological preparations are necessary to determine what role p16 may have in evaluation of anal cytology specimens.

Clinical Follow-Up/Triage of Cytological Interpretations

Because cytological interpretations do not always correlate with severity of lesions identified on biopsy, patients with ASC-US or worse on anal cytology should undergo anoscopy.[76]

Anoscopy

Compared with colposcopy of the cervix, anoscopy is a procedure that involves detailed visual inspection of the entire anorectal mucosa to detect intraepithelial neoplasia and/or frankly invasive carcinoma. A 3% acetic acid solution is applied to the anorectal mucosa to identify acetowhite HPV-related mucosal lesions. Colposcopic descriptors of disease typically used for cervical lesions such as

surface characteristics and vascular patterns are applicable to anal lesions and can be used to distinguish low grade from high-grade lesions by virtue of visual inspection,[77] but distinguishing HPV-related aceto-white areas from aceto-white areas with inflammatory changes requires considerable training and experience, evidenced by the low PPV (47.62%) reported in one study of renal transplant patients.[78] Further, PPV varies with lesion severity (LSIL PPV 7.7%; HSIL PPV 49%).[77] Comparison of the most severe lesion seen on anoscopy with biopsy yields a 0.32 κ agreement.[61]

Conclusions

The incidence of anal HPV-related squamous cell carcinoma is on the rise, particularly in HIV positive MSM. Compared with the cervical pap test, exfoliative sampling of the anal–rectal transformation zone can detect squamous intraepithelial lesions. Treatment can be offered as clinically indicated to hopefully curtail the incidence of anal squamous cell carcinoma.

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LETTER TO THE EDITOR

Fine Needle Aspiration Cytology of Undifferentiated (embryonal) Sarcoma of Liver in an Adult Male

Dear Dr. Bedrossian:

Undifferentiated (embryonal) sarcoma (UES) is an uncommon malignant tumor of the liver of mesenchymal origin.[1] UES was first described by Donovan and Santulli[2] as a mesenchymoma, and was subsequently named malignant mesenchymoma by Stout.[3] The term UES was coined by Stocker and Ishak in 1978[1] and is now generally accepted since the tumor is markedly undifferentiated and appears very primitive (i.e., embryonal). Although rare, UES is the fourth most common primary hepatic tumor in the pediatric age group (after hepatoblastoma, infantile hemeangioendothelioma, and hepatocellular carcinoma). The majority of reported UESs involve patients in the 6–10 year age[1] but infrequently in adults. However, UES should be considered in the differential diagnosis of a liver mass in the older child, adolescent, or young adult. We report a case of primary undifferentiated (embryonal) sarcoma of liver (UESL), which showed space occupying lesion (SOL) in an adult.

A 23-year-old male was admitted to the adult gastroenterology department because of fever and constant pain in the right upper quadrant for 3 weeks. He had lost 2 kg during the previous 2 months and had intermittent high temperature. On physical examination a large, hard, tender abdominal mass was palpable in the right upper quadrant. No other significant change was noted. The ultrasonography and CT scan study revealed a well defined, large, complex cystic lesion located in the right hepatic lobe measuring 15 × 12 × 10 cm with internal enhancing septation and areas of haemorrhages. The radiological possibilities of a cystic neoplasm versus a complicated hydatid cyst were kept. Serum alpha-feto protein level was within normal limits. An ultrasound guided FNAC from the liver SOL was performed. The smears showed

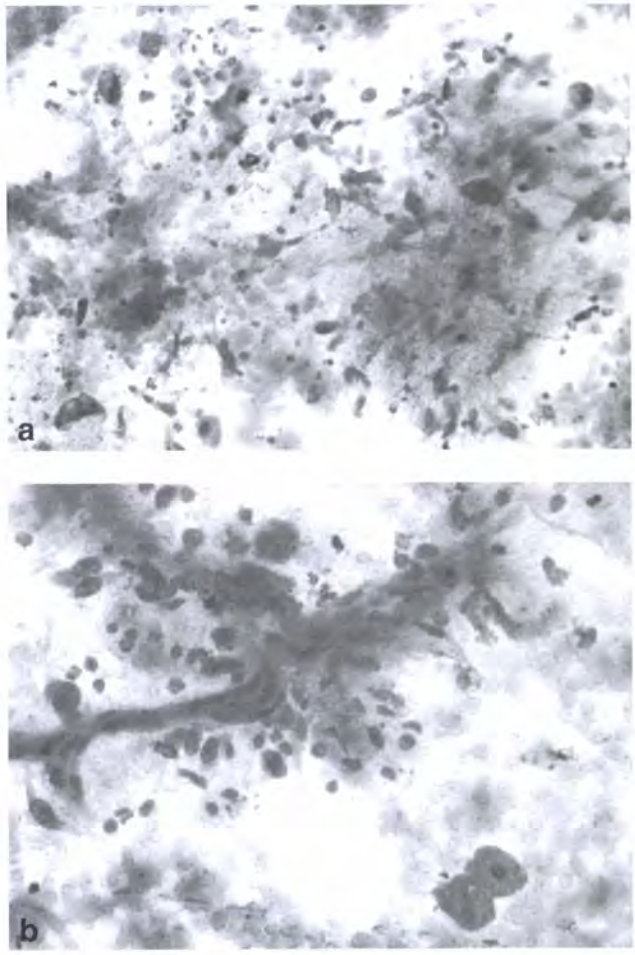

Fig. 1. (**a**) Cytology smear shows oval to spindle cells in a myxoid stroma (May–Grunwald–Giemsa, ×440). (**b**) Cytology smear cluster of cells and large multinucleated cells. (May–Grunwald–Giemsa, ×240). [Color figure can be viewed in the online issue, which is available at www.interscience.wiley.com.]

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malignant cells in clusters and lying singly. Two types of cell population were observed intermingled with each other: large cells with pleomorphic bizarre nuclei and clusters of oval to spindle cells with moderate nuclear pleomorphism, prominent nucleoli and coarse chromatin in a myxoid background (Fig. 1a and b). Atypical mitotic figures, nuclear pyknosis and nuclear, as well as cytoplasmic debris were frequent. Few clusters of benign hepatocytes were also noted in the background. A diagnosis of undifferentiated (embryonal) sarcoma (UES) was given on FNAC. Subsequently, partial hepatectomy was carried out and the diagnosis of embryonal sarcoma was confirmed on histopathology.

Less than 50 cases of UESL in adults have been reported within 40 years up to 2009 in the world-wide literature.[4–9] FNAC can play a pivotal role in the early diagnosis and complete surgical resection. The cytological differential diagnosis include biliary-tract rhabdomyosarcoma, anaplastic hepatoblastoma, embryonal hepatoblastoma (mesenchymal component predominant), and primary malignant fibrous histiocytoma (MFH) of the liver. UESL with rhabdomyoblastic differentiation have been reported in several cases.[9–11] A close relationship between UESL and MFH has been mentioned by several authors.[10,12] The cytologic features of UESL along with radiological and other relevant clinical findings may help in the correct diagnosis of this uncommon primary hepatic tumor.

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