Dermatology for the non-Dermatologist

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Disclosure Information

Disclosure of Relevant Financial Relationships with industry: None

Education

- BS Biology, International Studies: Loyola University Chicago
- MD and PhD: University of Illinois at Chicago
- Dermatology Residency: University of Minnesota

Case 1

- 22 yo otherwise healthy woman presents with a 3 week history of this eruption.
- Because of the burning, she has tried 1% HC cream with no improvement.

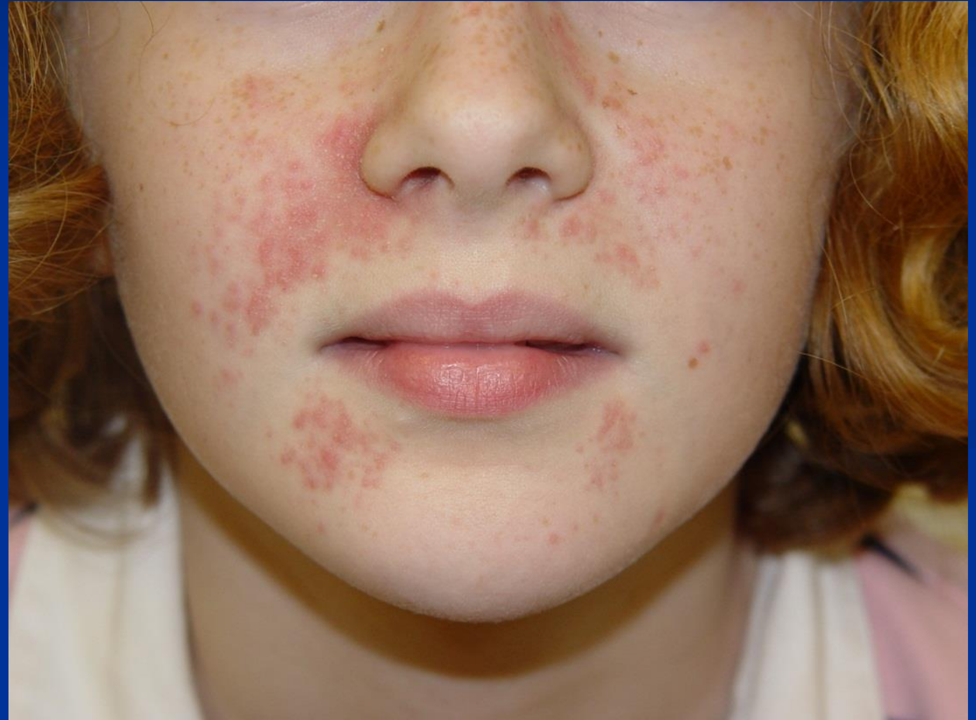


Photo courtesy of dermatlas.com

Case 1

You diagnose:

- A. Contact Dermatitis
- B. Verruca Plana
- C. Perioral Dermatitis
- D. Steroid Acne

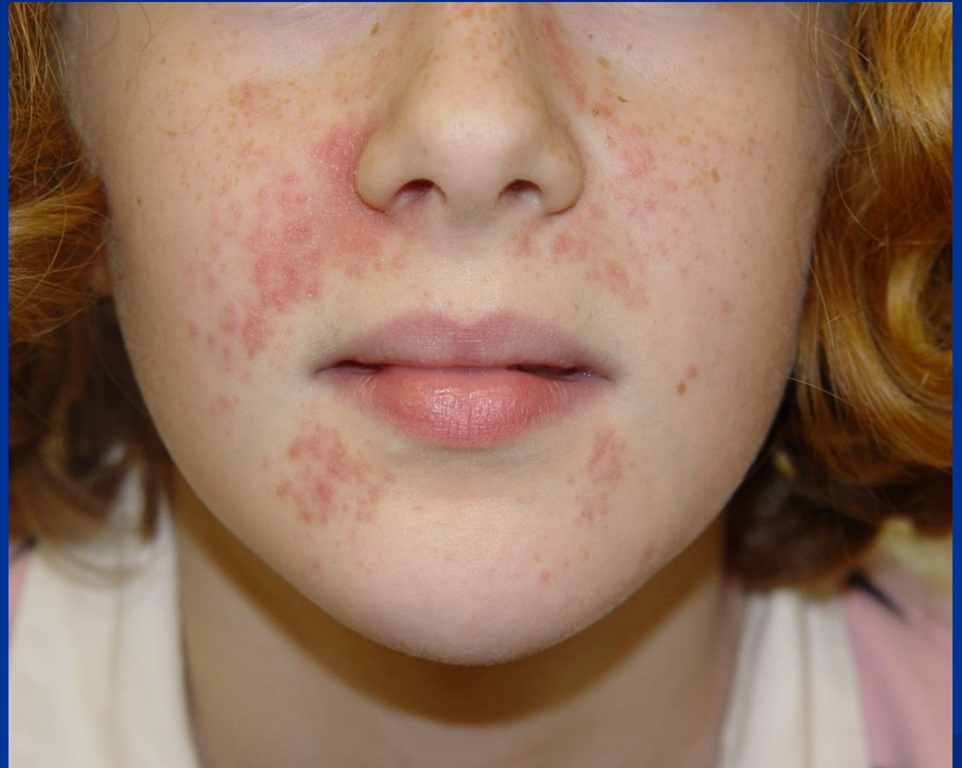


Photo courtesy of dermatlas.com

Perioral Dermatitis

- Common facial dermatitis consisting of fine papules (some with scale) and pustules
  - Key is a fine line of distinction outside of the vermillion border
- Clinically and histologically, resembles rosacea
- 90% of cases are in women 20-45 years old
- Typical complaint is 'burning'

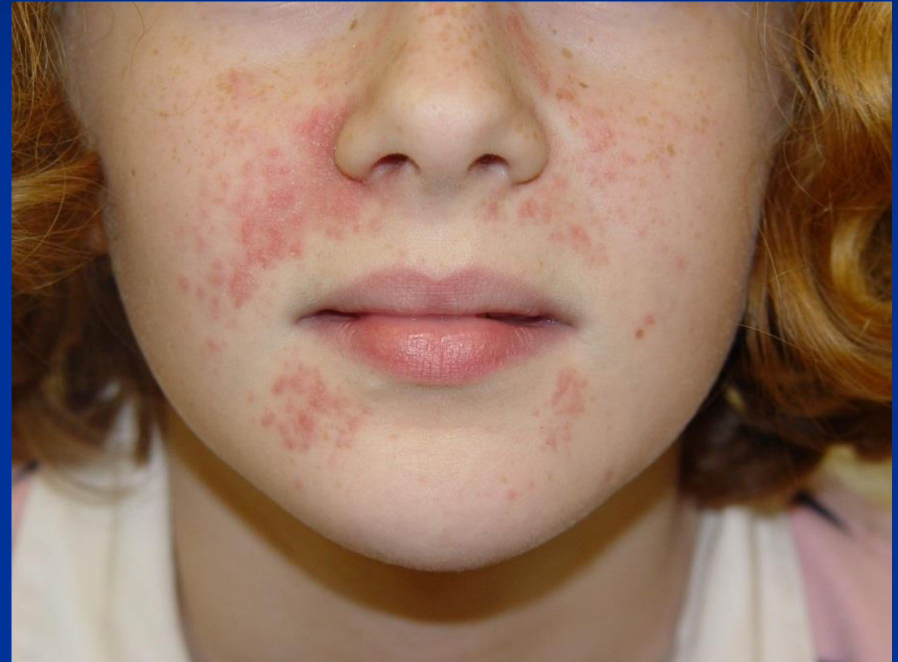


Photo courtesy of dermatlas.com

Perioral Dermatitis

- Cause:
  - Topical steroid use on the face
    - Steroid exposure from asthma inhalers
  - Fluorinated toothpaste
  - Occlusive cosmetics: petrolatum and paraffin

Photo courtesy of WebMD.com

Perioral Dermatitis cont.

- Clinical variant is peri-ocular dermatitis
- May be contiguous with lower facial rash or may be seen in isolation

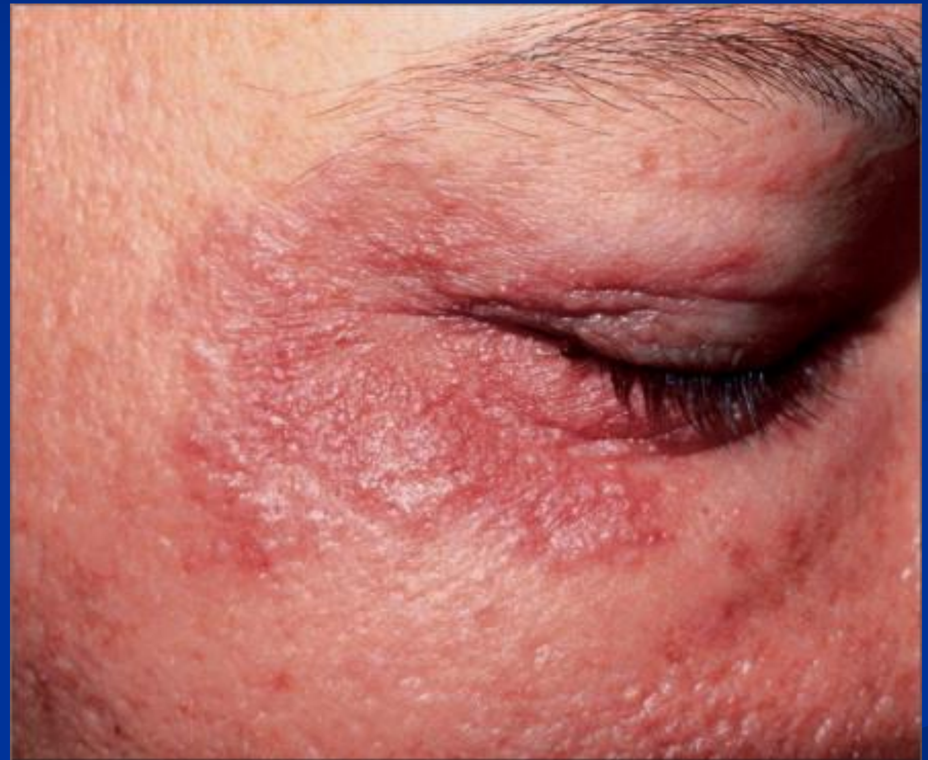


Photo courtesy of Bolognia et al

Perioral Dermatitis cont.

- In children, perioral dermatitis may be more granulomatous appearing
- This 3 year old boy was treated with numerous topical and oral steroids (which worsened his rash). He resolved with a 6 week course of oral azithromycin

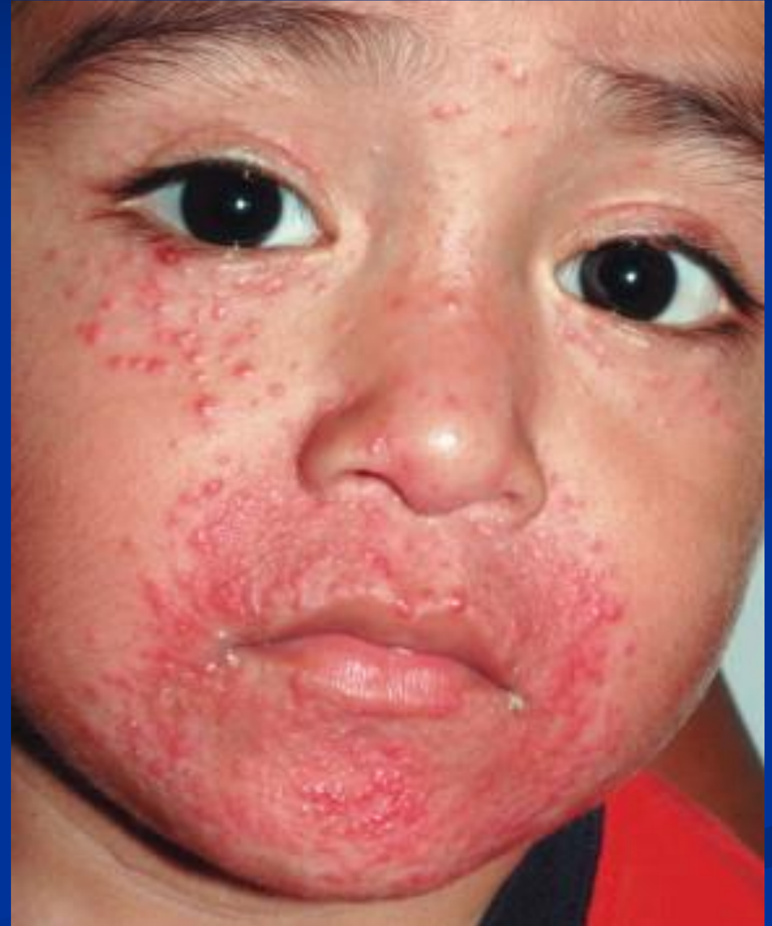


Photo courtesy of Bolognia et al

Perioral Dermatitis cont.

- Treatment:
  - Oral antibiotics:
    - Tetracycline family
  - Avoid occlusive cosmetics and topical steroids
    - Patients go through product “detox”
  - Topical anti-inflammatories
    - Metronidazole, erythromycin, sulfur containing compounds
    - Azelaic acid
    - Topical retinoids (may initially be too irritating)

Photo courtesy of Drugstore.com

Case 2

- 18 yo M recently doing well on Doxycycline x 18 months presents with these lesions. He denies missing any of his doxy. He does not use any topicals, because it is too much 'work.' His eruption is getting worse, despite the doxy.

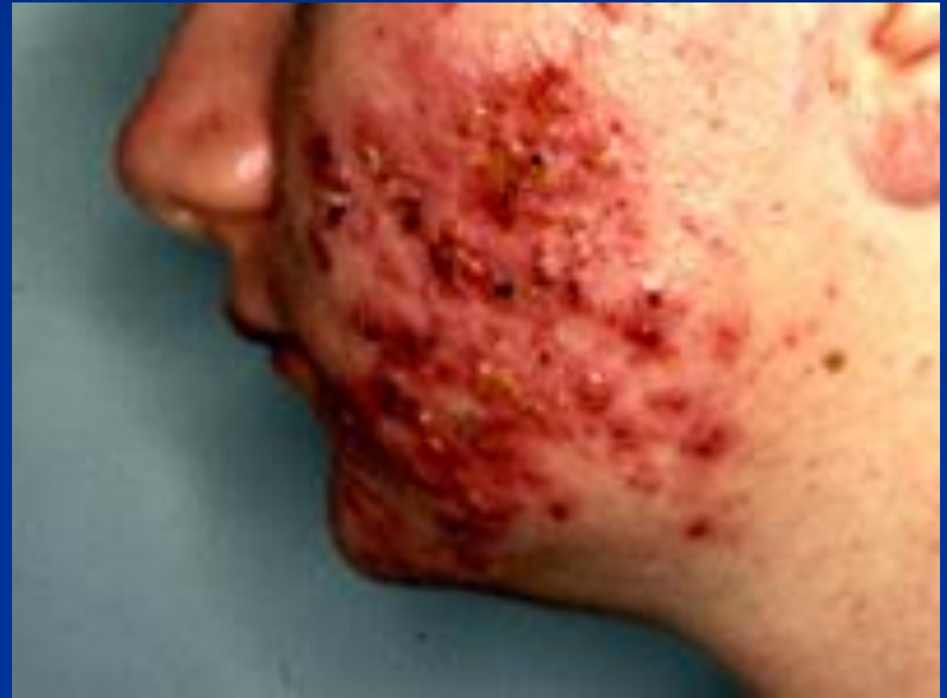


Photo courtesy of DermNetNZ.com

Case 2

You diagnose:

A. Gram-negative folliculitis
B. Acne Fulminans
C. Perioral Dermatitis
D. Sycosis Barbae

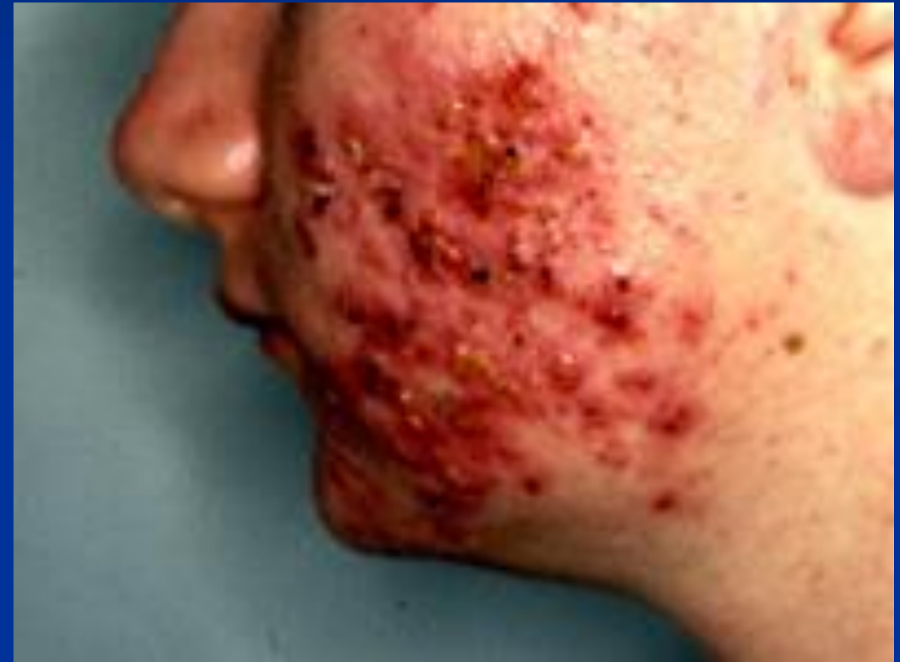


Photo courtesy of DermNetNZ.com

Gram Negative Folliculitis

- Infection of the hair follicles with gram-negative organisms
  - Include Klebsiella, Serratia, Escherichia, Proteus
- Occurs as a complication of long term antibiotic use for acne and rosacea.
  - Antibiotics (particularly tetracyclines) alter normal flora
  - Nares serve as reservoir for gram-negative organisms → subsequently transferred to the face
  - Uncommon: < 4% of patients with acne treated with oral antibiotics
- 2 typical scenarios:
  - Acne responding well, but sudden worsening with no change in treatment
  - Inflammatory acne not responding to antimicrobial therapy

Gram Negative Folliculitis

- Key is to notice the extensive pustular lesions, particularly on the infranasal area, cheeks and chin
  - Minimal to no comedones
  - Consider bacterial culture for any extensive pustular eruption

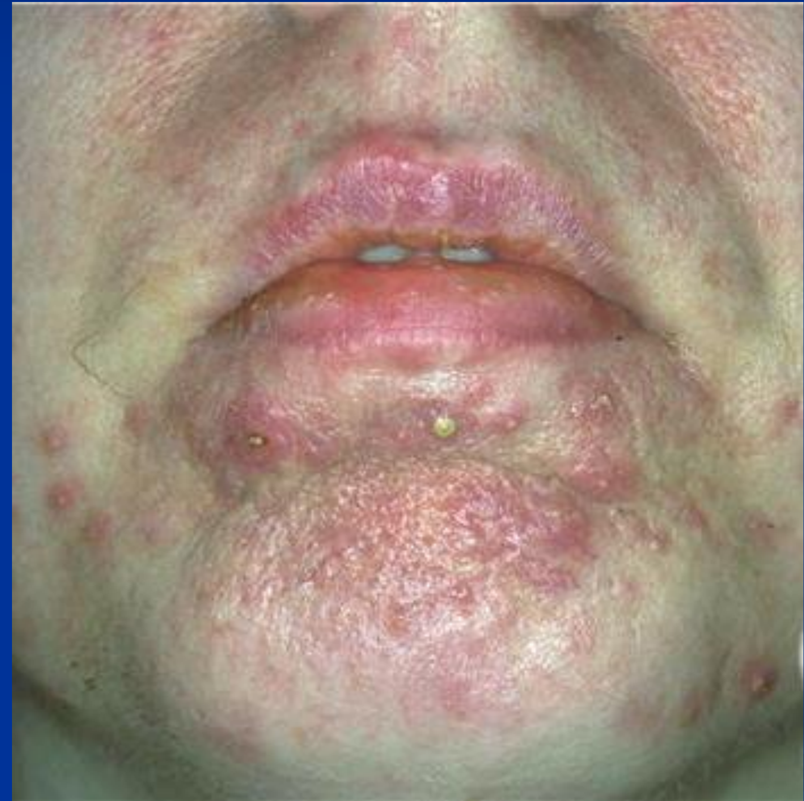


Photo courtesy of Dermis.net

Gram Negative Folliculitis

- Treatment
  - 1. Isotretinoin: 1st line!
    - Reduces sebum production
      - Sebum is reservoir of gram-negative organisms
    - Clearance time of 3 months
  - 2. Systemic antibiotics: 2nd line
    - Treat based on culture and sensitivity
    - Rarely effective

Case 3

- 73 year old Vietnam vet mentions this eruption casually as you are performing his yearly physical.
  - "Oh, by the way doc, I also have these bumps on my scrotum"

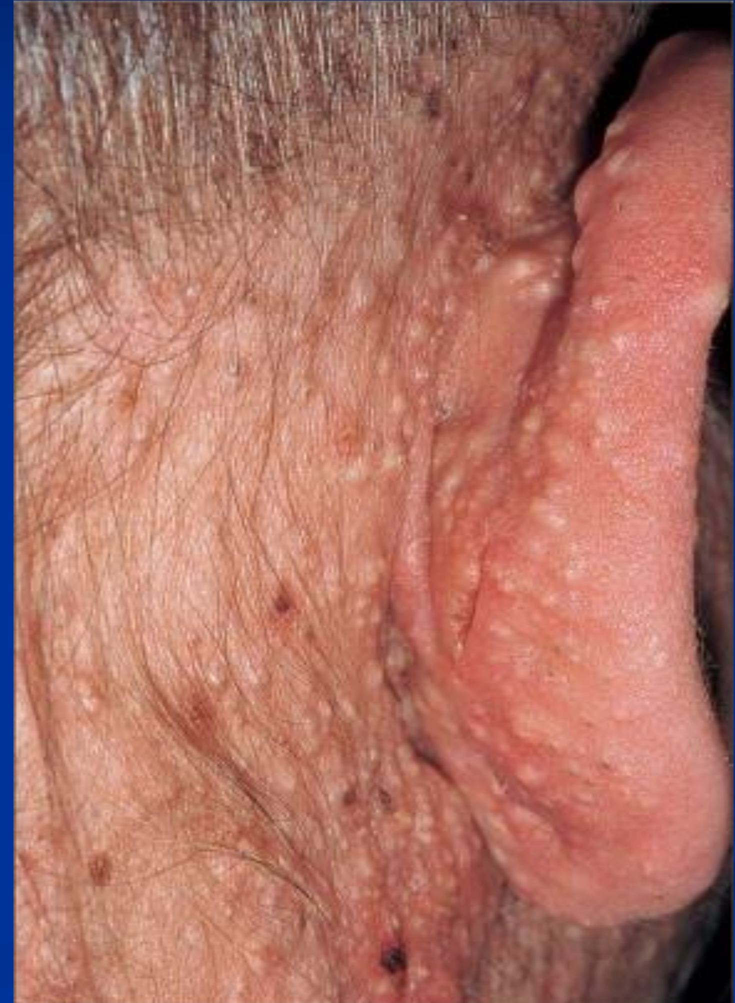


Photo courtesy of WebMD.com

Case 3

You diagnose:

- A. Steroid acne
- B. Chloracne
- C. Gram negative folliculitis
- D. Pyoderma Faciale

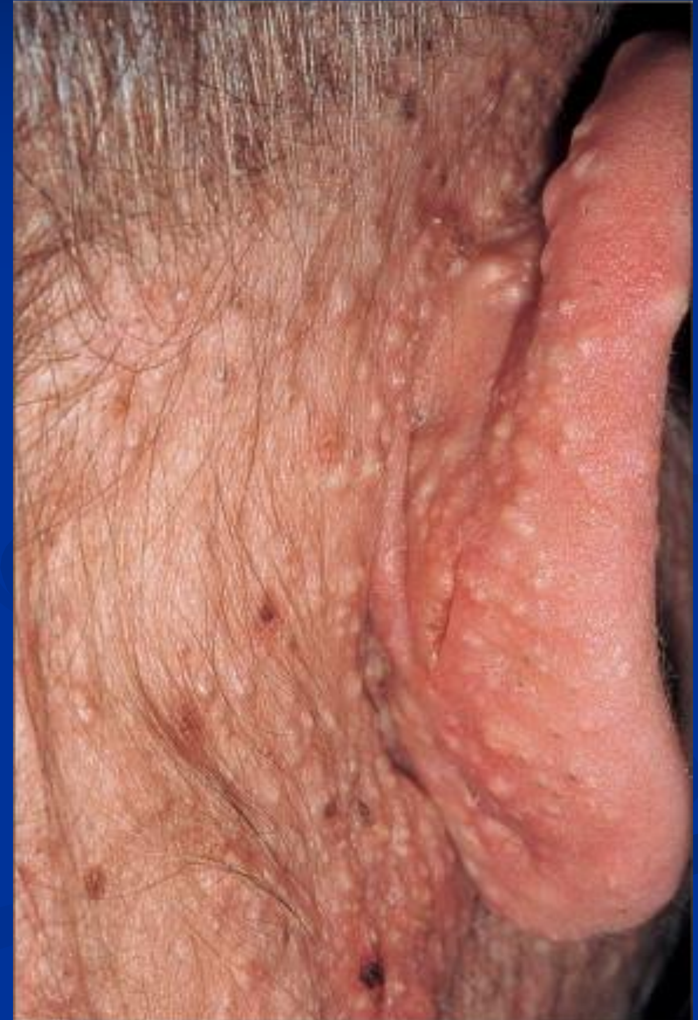


Photo courtesy of WebMD.com

Chloracne

- Occupational acne caused by exposure to chlorinated aromatic hydrocarbons (commonly known as Dioxin)
  - Insecticides, fungicides, herbicides, electrical conductors, wood preservatives
  - Agent Orange in Vietnam has been linked to the development of chloracne and is a 'service connected condition'
  - May present up to 30 years after exposure

- Characteristically affects retro auricular area, malar and mandibular area, axillae, and scrotum
  - Oily skin
  - Blackheads
  - Cysts

Photo courtesy of VA.gov

Chloracne

- Treatment:
  - Very difficult to treat
  - May partially respond to conventional acne therapies such as topical and oral antibiotics as well as retinoids
  - Prevention is key: wash immediately after exposure to liquid paint, varnish, or cutting oil.

Remember Viktor Yushenko?

July 2004

December 2004

Photo courtesy

Case 4

- 18 yo M with resistant bumps on chin. Currently being treated with 100 mg minocycline BID and benzoyl peroxide- adapalene x 2 months. He reports that his other small pimple on his forehead have cleared up but the chin is actually worse.
- Reports itching
- Has been getting worse during the summer months

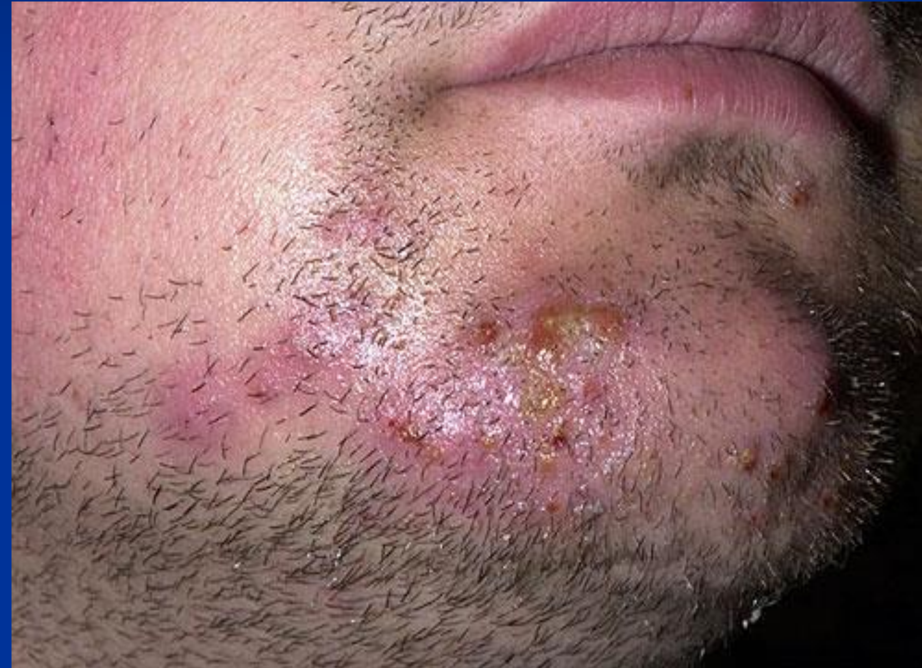
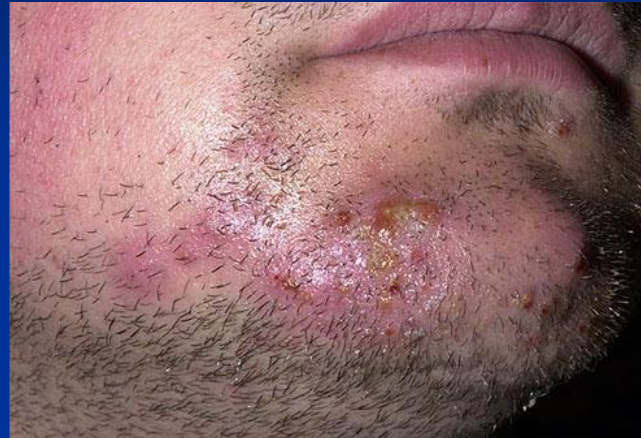


Photo courtesy of derm101.com

Case 4

Your diagnosis:

- A. Tinea barbae
- B. Gram negative folliculitis
- C. Pyoderma Faciale
- D. Chloracne



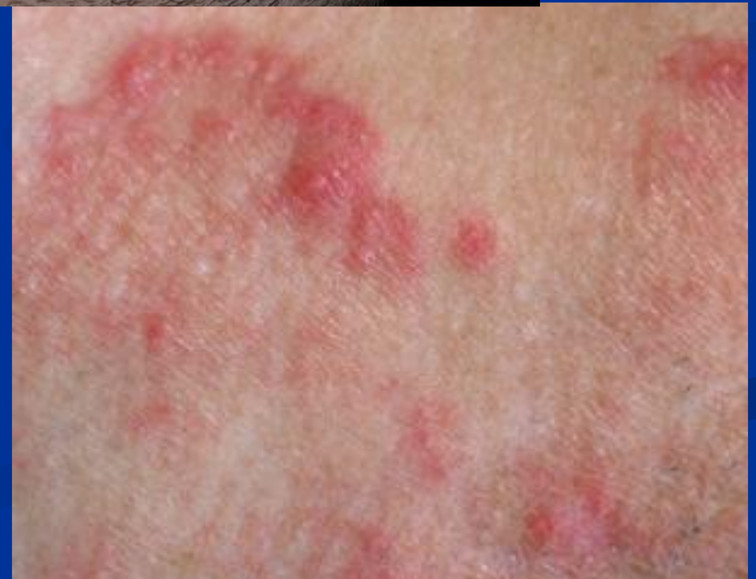


Photo courtesy of derm101.com

Tinea Barbae

- Superficial dermatophyte infection of the beard area
  - Trichophyton species most common
  - More common in hot/ humid climates
- Pruritus is key!
- Referred to as “barber’ s itch”
  - Transferred in barber shops with unsanitary razors
- Hair follicle infection requires oral antifungal therapy
  - Griseofulvin microsize 500 mg qday for 2 weeks until clinical lesions resolve
  - Terbinafine 250 mg po q day x 4 weeks

Case 5

- 19 yo M with new diagnosis of MS admitted to the hospital for pulse dose steroids. He now presents with these facial lesions.

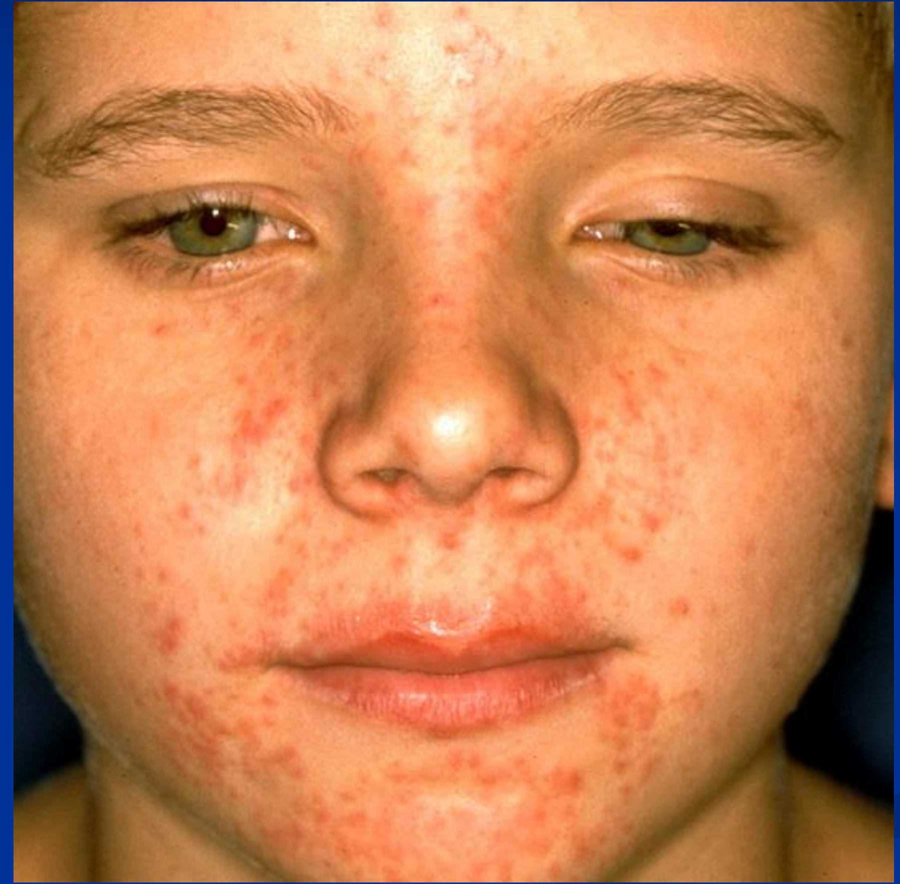


Photo courtesy of derm101.com

Case 5

You diagnose:

- A. Steroid Acne
- B. Tinea Barbae
- C. Gram Negative Folliculitis
- D. Verruca Plana

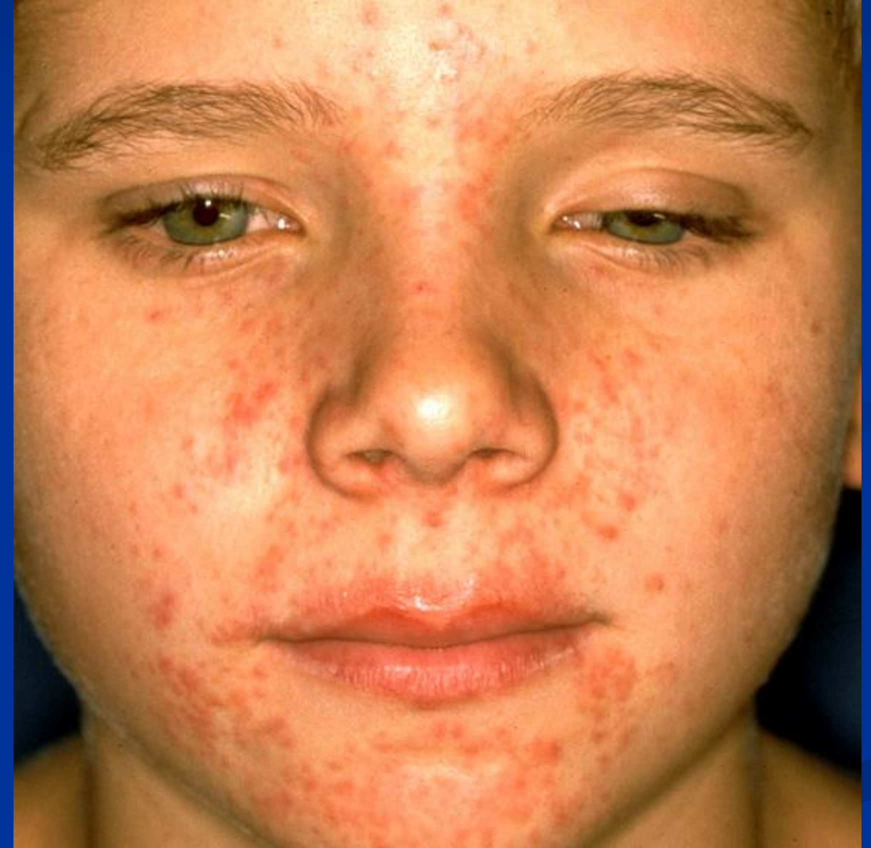


Photo courtesy of derm101.com

Case 5: Steroid Acne

- Monomorphic papules that are centro-facial
- Sudden onset
- Initial lesions are inflammatory
  - Comedones may or may not be seen
- Resolves with discontinuation of implicating medication

Other medication induced acne

- Lithium: up to 50% of treated patients develop acne!
- Cyclosporine
- Anticonvulsants
- Antipsychotics
- TNF alpha inhibitors
- Anti-tuberculosis meds
- Quinidine
- Azathioprine
- Testosterone

Epidermal Growth Factor induced Acne

- Increased EGFR in solid tumors: head/neck, lung, breast, ovary, prostate, colon
  - Agents include: geftinib, erlotinib, cetuximab, trastazumab, panitumumab
- Up to 86% of patients may experience an acneiform eruption
- May portend a good response to treatment
  - Better response with severity of the eruption
- Mechanism:
  - EGFRi → increased cell growth and differentiation of epidermal keratinocytes, sebocytes, and hair follicle outer root sheath → hyperkeratosis of the follicular infundibulum → acneiform eruption
- No preferred first line therapy

Case 6

- 24 yo University Minnesota Art History Grad Student presents with this facial eruption. She tells you she has ALWAYS had great skin and this occurred suddenly.

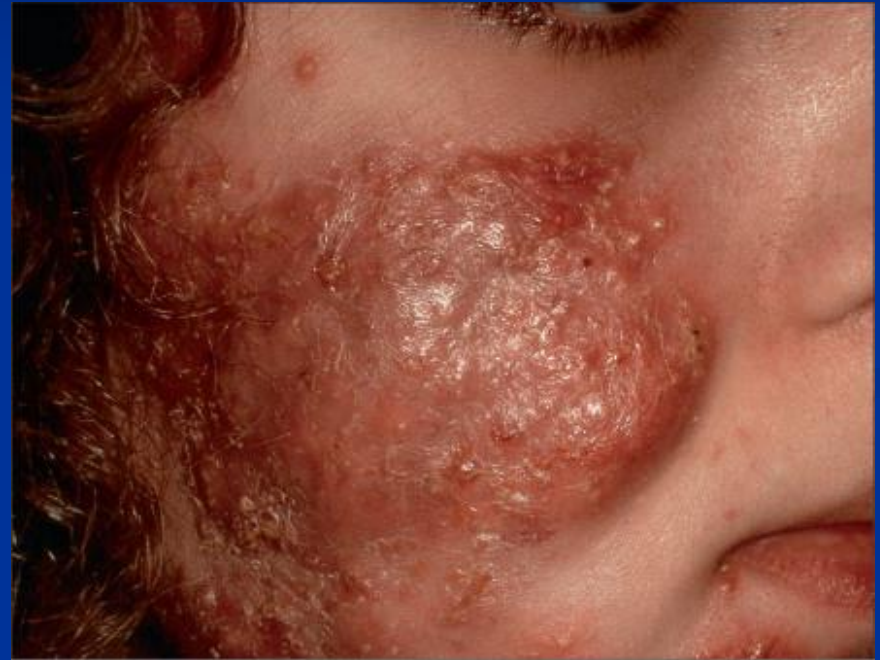


Photo courtesy of Bolognia et al

Case 6

You diagnose:

- A. Pyoderma Faciale
- B. Steroid Acne
- C. Gram Negative Folliculits
- D. Tinea Barbae

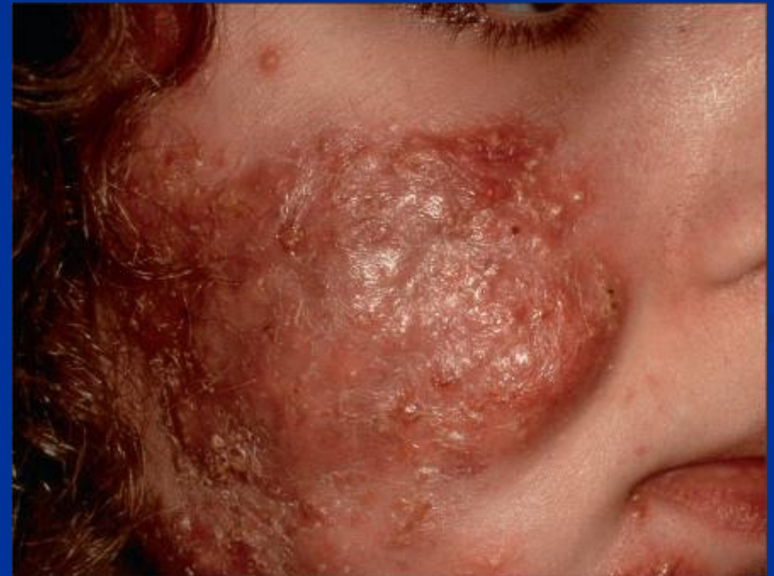


Photo courtesy of Bolognia et al

Pyoderma Faciale

- Misnomer- not a 'pyoderma'
  - Early patients misdiagnosed with bacterial infections
  - Typical inflammatory plaque with pustules and cystic lesions
- EXPLOSIVE onset on nodulocystic lesions and inflammatory plaques
  - Post-adolescent female
  - Little history of acne or rosacea
  - Only affects the face
  - Lesions may be painful
- Also known as Rosacea Fulminans
  - Histopathology similar to rosacea

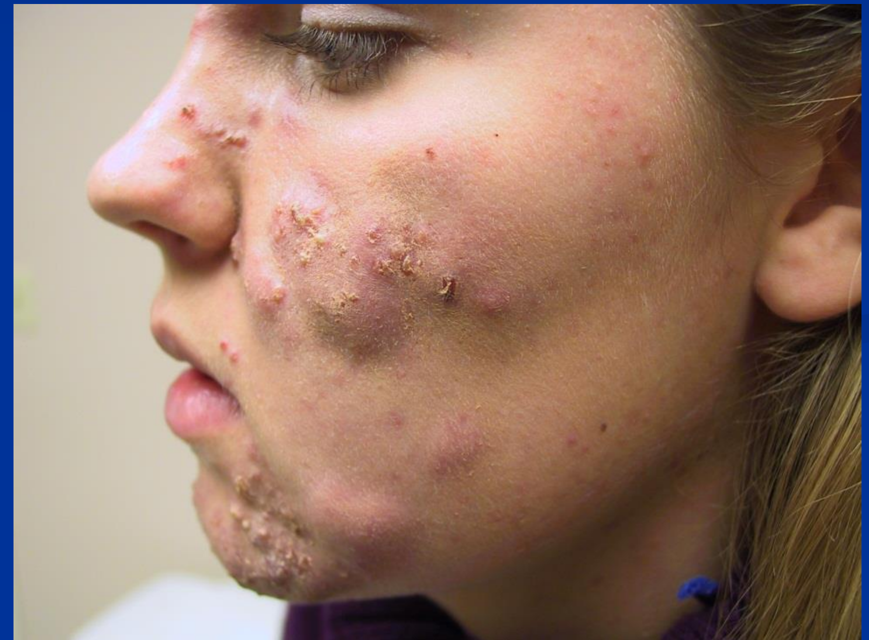


Photo courtesy onlinedermclinic.com

Pyoderma Faciale

- Considered a derm emergency because of the potential for scarring
- Treatment is with isotretinoin +/- concomitant oral steroids (initially) to reduce the inflammatory response

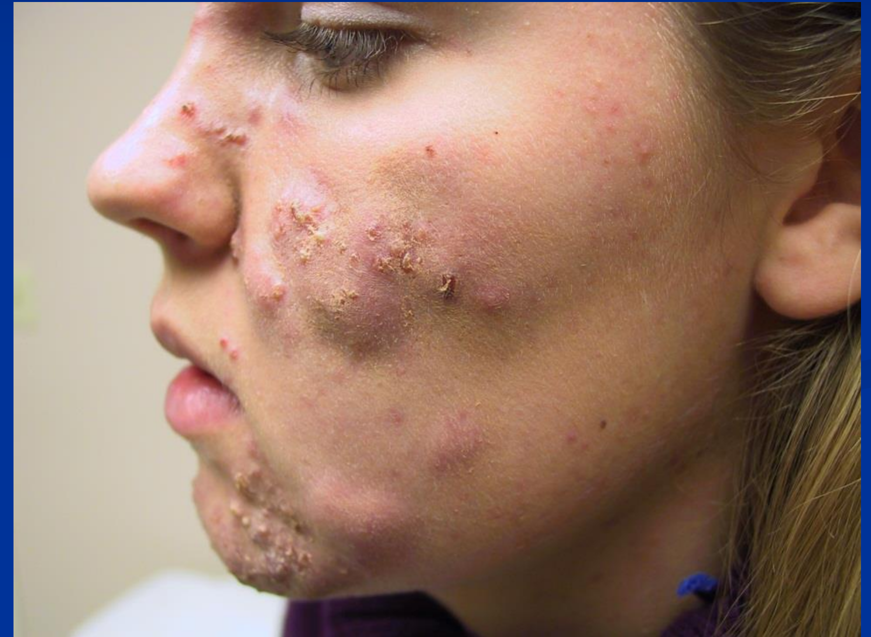


Photo courtesy onlinedermclinic.com

Case 7

- 16 yo M presents with these lesions, spreading x 3 months.
- Proactive has not helped

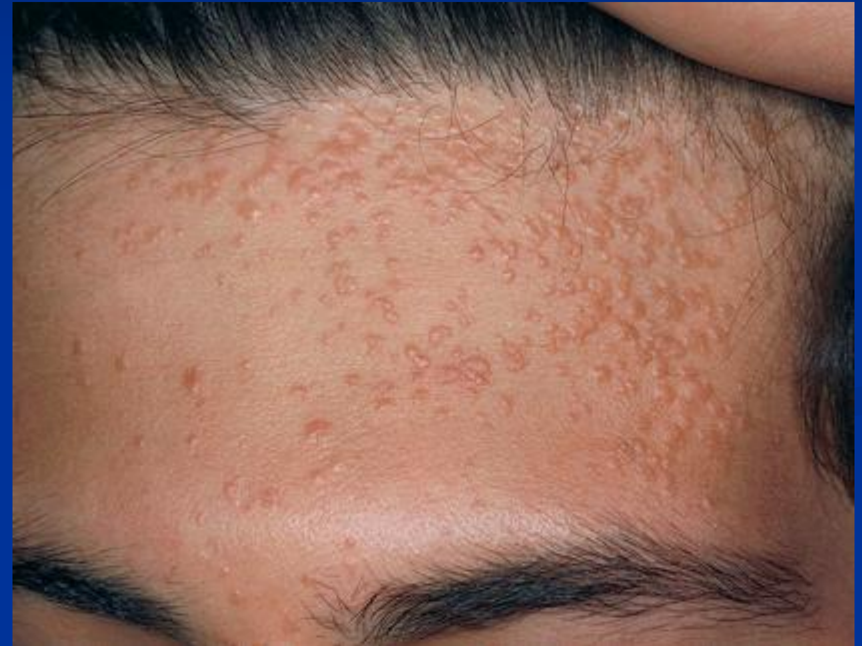


Photo courtesy of Bolognia et al

Case 7

Your diagnosis:

- A. Steroid Acne
- B. Perioral dermatitis
- C. Verruca Plana
- D. Gram negative folliculitis

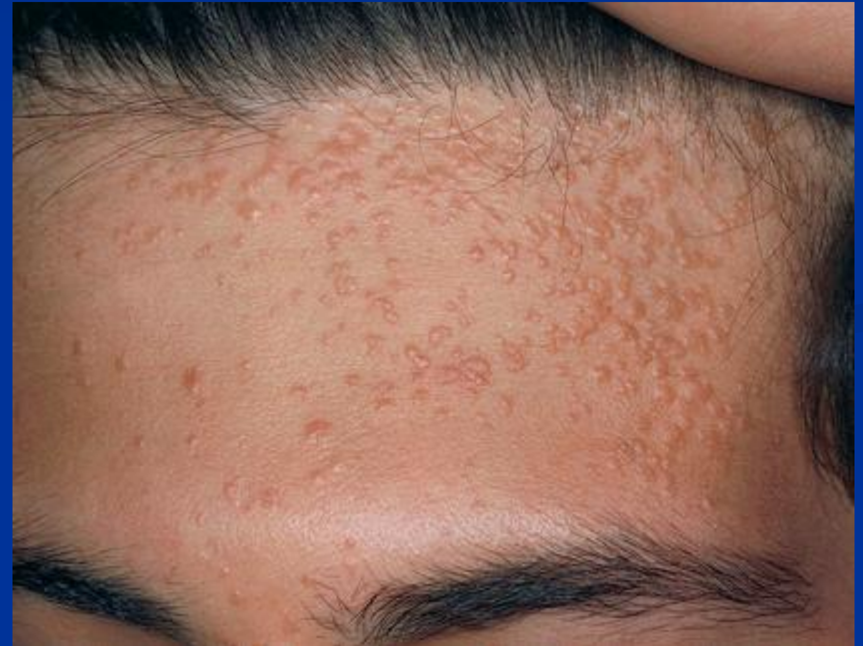


Photo courtesy of Bolognia et al

Verruca Plana

- Skin colored flat-topped papules
- Often in linear arrays
- Typically HPV 3 and 10
- Treatment:
  - First line: topical retinoids
  - Second line: destructive modalities
    - Caution: scarring and post-inflammatory pigment change
  - Third line: imiquimod

Photo courtesy of news.com

Beware the immunosuppressed patient …

- Disseminated Cryptococcus in an HIV patient somewhat resembling verruca or molloscum

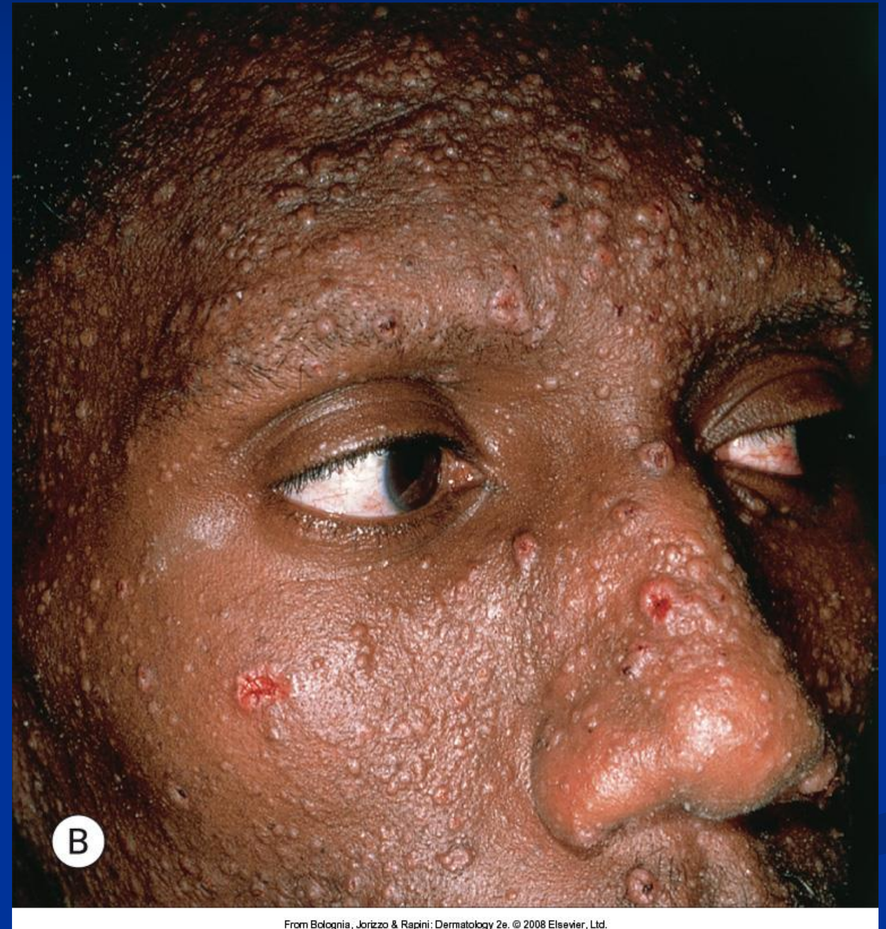


Photo courtesy of Bolognia et al

Case 8

- 25 yo African American male presents with bumps in the beard area, worse after shaving
- Some improvement with OTC benzoyl peroxide wash

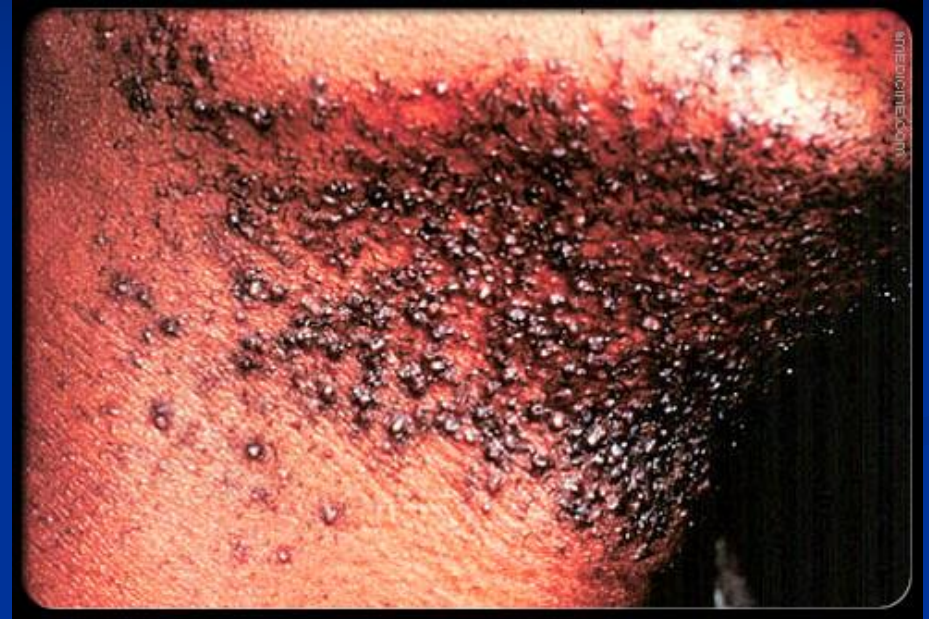


Photo courtesy of emedicinehealth.com

Case 8

Your diagnosis:

- A. Tinea Barbae
- B. Pseudofolliculitis Barbae
- C. Gram negative folliculitis
- D. Steroid acne

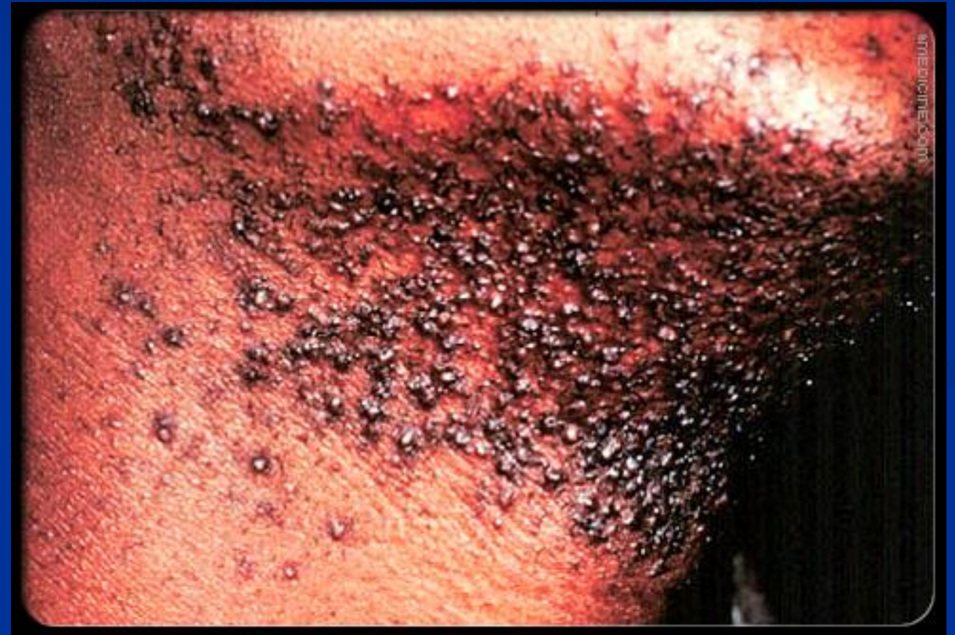


Photo courtesy of emedicinehealth.com

Pseudofolliculitis Barbae

- Close shave leads to sharp curly hairs re-entering skin
- Affects 10-80% of AAM
- Commonly seen in AAM who must shave daily (professionals, military)
- Treatment:
  - Rx
  - Laser
  - Shaving habits

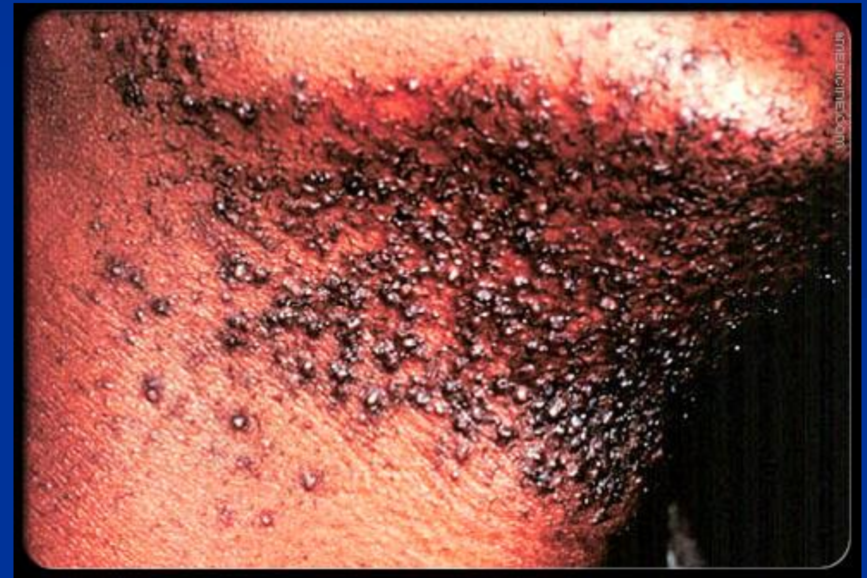


Photo courtesy of emedicinehealth.co

Pseudofolliculitis Barbae

- Rx:
  - Antibiotics – PO (tetracycline class) or topical (clindamycin/bpo combo) depending on severity
  - Retinoids
  - +/- steroids
  - Vaniqa – blocks enzyme in hair production, slows hair growth
- Laser
  - Long-pulsed Nd:Yag for laser hair removal
    - Safe for dark skin types
- Shaving Habits
  - Shave after showering (softens hairs)
  - Medicated shaving gels (BPO, salicylic acid)
  - Do not pull at skin while shaving – hairs are cut under skin, can grow into skin, rather than straight out
- Address PIH
  - Hydroquinone
  - Tazorac
  - Chemical peels

Case 9

- 30 yo F with sudden onset of forehead bumps
- Itchy
- No improvement with benzoyl peroxide, retinoids or topical antibiotics

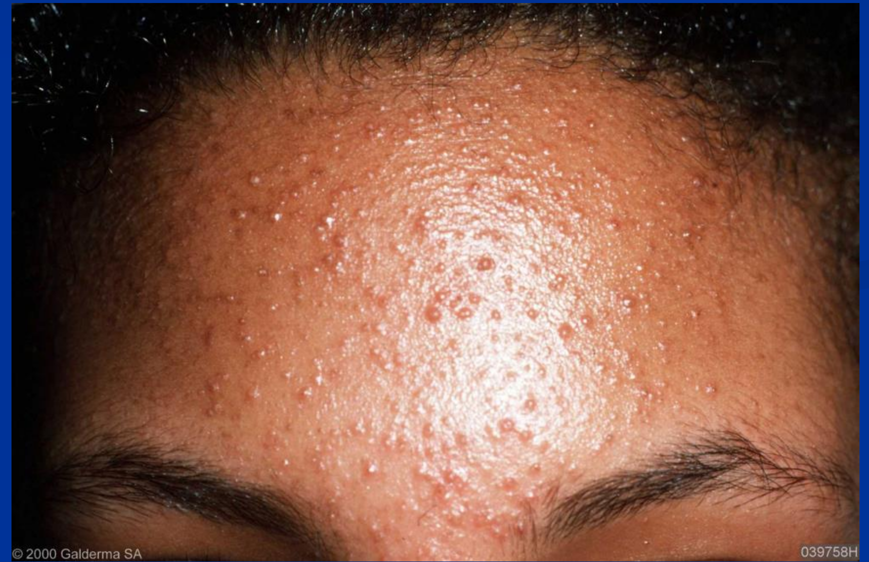


Photo courtesy of dermquest.com

Case 9

Your diagnosis:

- A. Gram negative folliculitis
- B. Verruca Plana
- C. Pityrosporum Folliculitis
- D. Comedonal acne

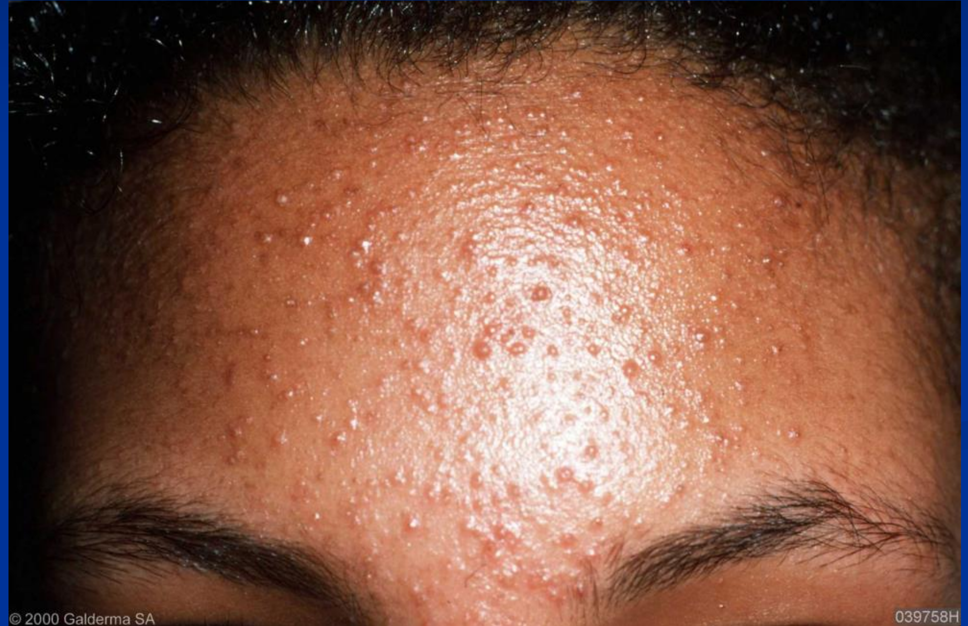


Photo courtesy of dermquest.com

Pityrosporum Folliculitis

- Caused by malassezia furfur yeast
- Overgrowth of yeast plugs hair follicle
- Monomorphic papules/pustules
- Itchy
- Often seen on body
- Treatment:
  - Oral + topical antifungals (ketoconazole recommended)
  - Continue topical after d/c-ing oral therapy

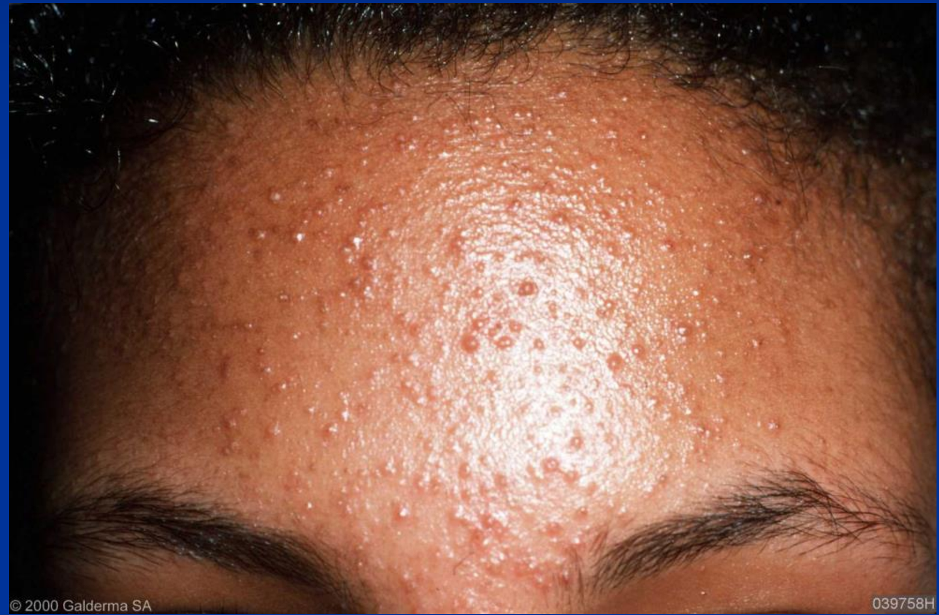


Photo courtesy of dermquest.com