Cutaneous Infections and Infestations

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No relevant financial relationships to disclose
60 year old female

- Found an 18 year old bottle of eye drops in her medicine cabinet
60 year old female

- Found an 18 year old bottle of eye drops in her medicine cabinet
- Decided to use them
Necrotic vessel

Blue haze

No inflammation
Pseudomonas Sepsis

- Pseudomonas endophthalmitis
- Unresponsive to systemic antibiotics
- Globe removed
- Survived sepsis after surgery and aminoglycoside therapy
34 year old female

- Unresponsive tinea pedis
Secondary Syphilis with Prozone Phenomenon

RPR negative

1:64 dilution positive
Syphilis

Vacuolar interface dermatitis

Slender acanthosis
Vessels lack apparent lumen
• 50 y.o. ice cream man
• Motor vehicle accident
• New fungal lesion
Zygomycete Infection

- Hyperglycemia predisposes to invasion
- Rapid vasculotropic invasion
- Surgical debridement
- Posaconazole
New Antifungals

- Caspofungin (echinocandin)
  - Candida and Aspergillus
- Voriconazole (triazole)
  - Candida, Aspergillus, Scedosporium and Fusarium
- Posaconazole
  - Zygomycetes
Stains poorly with fungal stains
Often stains well with tissue Gram stain
Child with pruritus

Courtesy of
Quenby Erickson, MD
Amblyomma americanum

- Festoons
- Ornate scutum
- Long mouthparts

D. Elston
Lone star tick
(*Amblyomma americanum*)

- Range expanding
- Larvae can attach by the thousands
- RMSF
- Tularemia
- Human monocytic ehrlichiosis (HME)
- *Ehrlichia ewingii* ehrlichiosis
- Southern tick-associated rash illness (STARI)
60 year old grandfather with pruritus
Acral pustules and pruritus
Scabies

- CD30+ cells may be numerous
- Langerhans cells may be numerous (may mimic Langerhans cell histiocytosis)
- Bulla with eosinophils
  - IgG and C3 may be present at BMZ (may mimic pemphigoid)
Chitin scrolls
Chitin pigtails
2 year old Being Treated for Langerhans Cell Histiocytosis
Scabies Mimicking LCH

• 22 week gestation infant with bedsores
• Ventilator dependent
• Sores noticed on back / buttocks
Morphologic Diagnosis

- Thick walled, irregular, septate hyphae with prominent bubbly cytoplasm
  - Phaeohyphomycosis: Surgery/antifungal
Black Molds
Aspergillosis
Bubbly blue cytoplasm, narrow hyphae
Fusariosis
Fusarium
A Word of Caution

• Many fungi contain melanin
• Fontana positivity must be interpreted in the context of the fungal morphology
7 year of female

• 7 cm mass on scalp with draining sinus tracts
Microsporum canis

- In foster care
- Adopted a stray kitten
100 year old man

- Lesion on the arm
- Case donated by Antoinette Hood, MD
• Comatose, febrile patient
• Recent cardiac catheterization
• New murmur
• Echocardiogram and repeated blood cultures negative
Janeway lesion

- Osler’s nodes:
  - Tender pink papules
  - SBE
- Janeway:
  - Non-tender, angular infarct
  - ABE
• Transesophageal echo:
  – vegetation
Dermatobia hominis (Warble Fly)
5 year old female

- Multiple subcutaneous nodules
Histoplasma capsulatum

Macroconidia are echinulate (tuberculate)
Evenly spaced organisms in histiocytes

Pseudocapsule surrounds organisms
African Histoplasmosis

• Key features
• Numerous large intracellular organisms in histiocytes and multinucleated giant cells
• Evenly spaced distribution of organisms in giant cells
Lobomycosis

Pop-beads
Hansen’s disease:
Sausage-shaped granulomas following neurovascular bundle
Staphylococcal colonies
Organisms at periphery of vacuole
Lower corneum compact and red
Grouped pleomorphic yeast within clear capsule

Granulomatous infiltrate
Grouped pleomorphic yeast

Gelatinous capsule
Pleomorphic yeast, some cigar-shaped
Pigmented hyphae in corneum
Pigmented hyphae in tissue
Branching may be acute

Bend in wall may mimic septum
Bubbly blue cytoplasm, narrow hyphae
Acantholysis and ballooning

Leukocytoclastic vasculitis
“Egg-shell” of basophilic chromatin