Phaeohyphomycosis

Presentation Developed by Lauren Carlozzi, Courtney Madden, and Shalyn Russell

Phaeohyphomycosis

- Fungi characterized by brown-pigmented ("dematiaceous") cell walls as mold as a few yeasts
- Mycelial form is the causative agent
- 3 main types of infections:
  - Subcutaneous
  - Paranasal sinus
  - Cerebral

Also known as...
- Cerebral chromomycoses
- Mycetoma
- Subcutaneous mycotic cyst
- Keratitis
- Phaeomycotic cyst
- Cladospiosis
- Phaeosporotrichosis
- Sinusitis

Etiological Agents and Taxonomy

- 71 species from 39 genera
- Most common pathogenic genera:
  - Exophiala
  - Phialophora
  - Wangiella
  - Bipolaris
  - Exserohilum
  - Cladosiphialaphora
  - Phaeoannellomyces
  - Cladosporium
  - Curvularia
  - Alternaria

Geographic Distribution

- Found worldwide
  - Plants
  - Soil
  - Air
  - Organic debris
- Tropical areas (cutaneous infections)

Subcutaneous Phaeohyphomycosis

- Exophiala jeanselmi & Wangiella dermatitidisare
- 3rd most common cause of keratitis after Fusarium & Aspergillus
- Happens when contaminated splinters, thorns, soil etc get traumatically implanted in skin
- Causes cystic lesions in adults
- In healthy people: starts out at red nodule, progresses into painless expansion of skin and subcutaneous tissue, may develop into a cyst
- Immunosuppressed people-produces scaly, crusty lesions/ulcers
- Usually treated with surgical removal, antifungals or both

Paranasal Sinus Phaeohyphomycosis

- Most common causative agents:
  - Bipolaris
  - Exserohilum
  - Curvularia
  - Alternaria
- Disease present as either fungus balls or allergic sinusitis
  - Main causative agent of this along with Aspergillus
- More at risk if immunosuppressed patient or history of allergic rhinitis
Cerebral Phaeohyphomycosis
- Rare infection
- Frequently fatal
- Most common causative agent: Cladophialophore bantiana
- No risk factors
- Healthy and immunosuppressed patients
- Headache, low grade fever
- Usually stays in CNS

Subcutaneous Phaeohyphomycosis
- Histopathology
  - Traumatic implantation of fungal elements
- Diagnosis
  - Skin scrapings
  - Biopsy
- Clinical Manifestation
  - Cystic lesions
  - Scaly lesions
  - Abscesses
- Treatment
  - Surgical excision

Paranasal Sinus Phaeohyphomycosis
- Diagnosis
  - Sputum and bronchial washings
  - Pleural fluid and blood
- Clinical Manifestations
  - Lesions on the septum
- Treatment
  - Chemotherapy
  - Drug treatment

Cerebral Phaeohyphomycosis
- Histopathology
  - Inhalation of conidia
- Diagnosis
  - Cerebrospinal fluid
- Clinical Manifestations
  - CNS
- Treatment
  - Chemotherapy
  - Drug treatment
  - Amphotericin B and 5-fluorocytosine, or intraconazole

Case Report: Subcutaneous Phaeohyphomycosis
- 20 year old female
- From Tamil Nadu, India
- Presented with multiple non-healing skin ulcers for 6 months
- Given antituberculous treatment for a painless nodule
- Developed jaundice
- Developed other abscesses with a foul smelling discharge
- Oral thrush (Candida albicans)
- Immunocompromised

Case Report: Subcutaneous Phaeohyphomycosis (cont.)
- Culture yielded pure growth of Exophiala spinifera
- Clinical diagnosis:
  - Cirrhosis with subcutaneous phaeohyphomycosis
- Tissue dissection
- Antifungal therapy
  - Ketoconazole
- Became confused, disoriented, and developed gastrointestinal bleeding
- Patient died three weeks after admission
  - Hepatic failure
Case Report: Cerebral Phaeohyphomycosis

- 23 year old male, from India
- Complaints of:
  - left sided headache
  - right sided hemiparesis
  - facial palsy
  - diplopia
- Normal physical examination
- Cranial CT scan revealed a ring enhancing lesion on the left side
  - interpreted as a cerebral (intracranial) abscess

Case Report: Cerebral Phaeohyphomycosis (cont.)

- Isolated and cultured
  - Mostly unbranched chains of conidia
- Identified as *Cladophialophora bantiana*
  - Grew at 42 degrees C
- 2 episodes of right focal seizures
- CT after two months of hospital stay showed mild resolution of the lesion
- discharged with no neurologic deficit

References


References (cont.)