- C. neoformans and C. gattii are the most important
- an encapsulated organism
- cause of meningitis and pneumonia in the immunocompromised
- India ink staining and CSF and blood cryptococcal antigen tests are useful
- caused by Zygomycetes fungi - Rhizopus, Rhizomucor, Absidia spp
- broad, non-septate hyphae that branch at 90 degrees
- risk factors are:
  (i) chronic respiratory acidosis,
  (ii) poorly controlled diabetes,
  (iii) immunosuppression,
  (iv) renal failure,
  (v) chemotherapy with increased serum iron levels,
  (vi) burns,
  (vii) intravenous drug use
- invasive rhinocerebral, orbital or disseminated black lesions
- usually resistant to azoles (except posaconazole)
- acute angle, branching, septated, non-pigmented hyphae
- associated diseases include:
  (i) asthma (type 1 hypersensitivity to spores)
  (ii) allergic bronchopulmonary aspergillosis (type 3 hypersensitivity with recurrent pneumonia & bronchiectasis)
  (iii) aspergillosis (mycetoma)
  (iv) invasive aspergillosis
  - serum galactomannan (an Aspergillus antigen) may aid diagnosis
  - CT may show halo and crescent air signs with aspergillosis and invasive disease
- previously known as P. carinii & renamed recently as well as reclassified as a fungus on the basis of nucleic acid and biochemical features
- classically causes pneumonia in the immunosuppressed
- may respond to treatment with cotrimoxazole, dapsone or atovaquone
- concomitant corticosteroids should be used in patients with HIV infection and significant hypoxaemia
- For severe sepsis due to Candida species, initiate treatment with amphotericin until the identity of the Candida species is confirmed.
- If the infection is related to an intravascular catheter, the catheter should be removed to prevent relapse. Initially, use amphotericin B desoxycholate 0.5 to 1 mg/kg IV, daily.
- For proven Candida albicans and other susceptible strains, use: fluconazole 400 mg (child: 10 mg/kg up to 400 mg) IV, daily.
- Following clinical improvement with either IV amphotericin or IV fluconazole, for susceptible species, continue treatment with: fluconazole 400 mg (child: 10 mg/kg up to 400 mg) orally, daily for a total of at least 14 days.
- Some Candida (e.g. C. krusei, C. glabrata) are resistant to fluconazole; voriconazole or caspofungin may be suitable alternatives.
- Neutropenic patients with hepatosplenic candidiasis need prolonged therapy
- Candida albicans is asexual, dimorphic with hyphae, pseudohyphae & chlamydospores
- Other species with increased resistance patterns and varied morphology are
  (i) C. tropicalis
  (ii) C. kefir
  (iii) C. glabrata
  (iv) C. lusitanae
  (v) C. parapsilosis
- Azole resistance is increasing with C. albicans and is well establised for C. krusei & C. glabrata
- amphotericin resistance is a problem with C. lusitanae but it is sensitive to azoles
- Invasive candidiasis is highly likely if:
  (i) cultured from the blood (especially two at different times of collection)
  (ii) cultured from a sterile site
- Invasive candidiasis is suggested by:
  (i) culture from tissue or burn wound biopsies
  (ii) culture from two non-contiguous sites
- identified species is non commensal
- the incidence of candidaemia amongst unselected ICU patients is only 0.5–2%,
- Invasive fungal infections in such patients are associated with crude mortality rates of 30–40%.
- Candida albicans is asexual, dimorphic with hyphae, pseudohyphae & chlamydospores
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