Candida endophthalmitis: an unusual complication of prolonged intravenous access

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Abstract
A 16 year old boy awaiting a defunctioning colostomy for Crohn’s disease complained of reduced vision in his left eye. Four weeks previously candida had been isolated from his central line used for parenteral feeds. Fundal examination of the left eye revealed a macular abscess with a classic “string of pearls” appearance of multiple vitreous abscesses. This was treated with pars plana vitrectomy and intravitreal antifungal therapy. Microbiological studies confirmed a diagnosis of candida endophthalmitis.

Microbiological studies confirmed the presence of Candida albicans sensitive to fluconazole. As the patient had already been receiving the appropriate antifungal agent for one month since the contaminated central line had been removed, the dose of fluconazole was increased to 600 mg twice a day.

At six weeks the visual acuity had improved to 6/36 and on review six months later the infection had completely resolved and the patient’s visual acuity had improved to 6/9 (fig 2).

Discussion
Candida species is widespread in the hospital environment and is a commensal organism in the upper respiratory, gastrointestinal, and genitourinary tracts. Consequently, a high index of suspicion of candida endophthalmitis is required in patients with predisposing factors. Blood cultures are frequently negative.5 When suspected, prompt ophthalmic referral is advised as intravitreal amphotericin and oral antifungals are highly effective in eradicating the organism and preserving vision.2 Fluconazole (a triazole) is the oral antifungal agent of choice. The usual dose is between 200–400 mg/day in divided doses but up to 1600 mg/day may be used in severe systemic disorders.7 Those patients with renal or hepatic impairment, or who are pregnant, need more careful...
Learning points

1. A high index of suspicion of fungal infection is warranted in patients with the following risk factors:
   (A) Intravenous drug use
   (B) Immunodeficiency
   (C) Prolonged corticosteroid therapy
   (D) Cytotoxic chemotherapy
   (E) Prolonged systemic antibiotic treatment
   (F) Parenteral feeds

2. Early diagnosis of candida endophthalmitis improves visual prognosis

3. Physical/ophthalmic signs may be minimal either because:
   (A) Patient’s general condition may be poor: intravenous drug use, prolonged intravenous therapy (antibiotics, steroid, cytotoxic, parenteral)
   (B) Eye pathology may be very subtle. Patients may present with a slight red eye, photophobia or floaters. Visual acuity may be normal if the macula or the optic nerve are not involved

4. Early lesions may only be evident on fluorescein angiography

5. Anterior segment inflammation (iritis, scleritis, or hypopyon) is a late manifestation of posterior segment infection by candida

6. Transient side effects of empirical antimycotic therapy include: anaemia, thrombocytopenia, increased serum creatinine

7. Urgent specialist ophthalmic opinion is indicated in all cases

8. Oral fluconazole may be started when the diagnosis is suspected

9. Intravitreal antifungal agents are required in those patients with vitreous involvement

10. Early vitrectomy is indicated when the efficacy of therapy (intravenous/intravitreal) is insufficient

References


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