CASE REPORT

Chronic candida endophthalmitis as a cause of intermediate uveitis

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Accepted 19 March 2015

SUMMARY

Intermediate uveitis is a subset of intraocular inflammation where vitritis is the most consistent sign, with or without snowball opacities or snow banks over the pars plana. Some patients will have an associated underlying systemic disease such as sarcoidosis, multiple sclerosis, ocular tuberculosis, inflammatory bowel disease, possibly Behçet's disease and intraocular lymphoma, whereas some will be classified as pars planitis in case of the lack of an identifiable systemic disease association. Our patient, a 47-year-old woman, developed intermediate uveitis after cataract surgery in her right eye, was misdiagnosed as pars planitis, and received steroid monotherapy for 8 months. Her inflammation only fully resolved after vitrectomy with removal of the intraocular lens (IOL) and capsular bag. Oral fluconazole and intravitreal amphotericin B injection had failed to resolve her inflammation when *Candida albicans* was identified as the cause of her persistent intermediate uveitis.

BACKGROUND

Masquerade syndromes are a group of infectious and non-infectious disorders that can present initially as intraocular inflammation, and are often misdiagnosed as chronic idiopathic uveitis.¹ Although most patients with postoperative endophthalmitis will present with severe acute inflammation, some will have a chronic indolent intraocular infection. In cases of fungal infections, and as the infection progresses, fungus fluff balls will form in addition to the associated anterior uveitis and vitreous inflammation, in a seemingly quiet eye; a picture simulating pars planitis. Only appropriate diagnosis and timely intervention will improve the patient's outcome.² Systemic and intravitreal antimicrobial therapy with removal of the residual capsule and IOL will be required in cases with chronic recurrent or recalcitrant disease.³

CASE PRESENTATION

A 47-year-old woman was referred with chronic intermediate uveitis for further evaluation. On

Figure 1 Colour fundus photos of the right (A) and left (B) eyes demonstrating vitritis and vitreous haze in the right eye. (C and D) The inferior fundus of the right eye with snowball-like white vitreous opacity that has not resolved after vitrectomy and steroid monotherapy, believed to be of a lens-induced intraocular inflammation, are seen.

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To cite: Amin RM, Hamdy I, Osman IM. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-208847

presentation, the patient had seemingly quiet eyes, with 5/60 vision in the right eye, 2+ anterior chamber (AC) cell, mild flare, 3+ vitreous cell and moderate haze, an inferior snowball with some vitreous condensations, and mild disc hyperaemia. Vision in the left eye was 6/6 with no signs of intraocular inflammation (figure 1A–C). Both eyes were pseudophakic as the patient reported having had bilateral successive uneventful cataract surgeries 9 months prior to presentation. No history of diabetes or any other associated systemic disease was noted. The patient had been using topical and systemic steroids for 7 months prior to presentation, with no improvement. Considering that the snowball vitreous opacities were possibly retained lens fragments causing lens induced uveitis, a posterior subtenon steroid injection was performed elsewhere, followed by incomplete vitrectomy, with no success (figure 1D). The patient had a recent optical coherence tomography (OCT), which was essentially normal with no macular oedema (figure 2A, B).

INVESTIGATIONS

A work up including chest CT, tuberculin skin test and a complete blood count along with a meticulous review of systems was carried out to rule out primary uveitic conditions.

Since steroids had failed to resolve the patient's condition, an infectious masquerade and AC tap were performed with request for fungal cultures and prolonged sample incubation. Aqueous smear showed yeast-like cells, and culture results 1 week later showed fungal colonies of *Candida albicans* >50 cfu/plate.

DIFFERENTIAL DIAGNOSIS

Possible aetiologies of the patient's postoperative inflammation would include a new-onset primary uveitic condition such as sarcoid, tuberculosis and multiple sclerosis, and lens-induced inflammation, or chronic postoperative infective endophthalmitis.

TREATMENT

On the basis of culture and sensitivity results, oral fluconazole at a daily dose of 200 mg was started and intravitreal amphotericin B injection was given. The patient had undergone a vitrectomy prior to presentation, so further surgical intervention was deferred at that time. She developed sterile panuveitis with hypopion 12 h after injection with a drop of vision to counting fingers at 1 m. A decision of close observation, with add on topical and low-dose systemic steroids, led to a complete resolution of the hypopion and haze 72 h later. Whether intraocular toxicity occurred due to a highly concentrated preparation of amphotericin B solution has not been possible to confirm.⁴

OUTCOME AND FOLLOW-UP

The patient remained quiescent for 4 months after treatment, but a recurrence of her inflammation occurred after tapering systemic antifungals. The patient was admitted for a second intervention for completion of vitrectomy and removal of capsular bag together with the IOL. She awaits surgery for a secondary IOL implantation now that her inflammation has been

Figure 2 (A and B) Normal optical coherence tomography (OCT) scans, unusual for a diagnosis of pars planitis, are seen. (C and D) Media and resolution of the vitreous condensations and inferior fugus balls after institution of antifungal therapy, are seen.

inactive for over 6 months with clear media and a best corrected vision of 6/24 (figure 2C, D).

DISCUSSION

Endophthalmitis classically presents with severe acute ocular inflammation, decreased vision and pain. Depending on the causative organism, a chronic smouldering form of vitreous inflammation with AC reaction and no significant signs of external inflammation or pain can occur with cases of fungal or *Propionibacterium acnes* endophthalmitis, and can, in particular,

take several months to develop.² A delay in appropriate diagnosis is more often than not the case because of the difficulty in differentiating between sterile postsurgical inflammation and true postoperative infection. When in doubt, an AC tap has shown to be a safe and helpful diagnostic procedure in unclear situations with specific instructions on the use of potassium hydroxide or Giemsa stains for smears, and prolonged incubation for more than 10 days for a possible *P. acnes* or fungal aetiology.⁵

Vitrectomy with intravitreal injection of antifungals and/or IOL removal offers the best chance for cases with severe vitreous inflammation, whereas oral antifungal drugs alone can be sufficient for cases of chorioretinitis associated with endogenous fungal endophthalmitis.⁶ Although the IOL does not need to be removed at the time of initial surgery, recurrent inflammation will necessitate repeat intravitreal injections and removal of the residual capsule and IOL.³

Contributors The authors have participated in providing care for the patient and performing the required interventions and manuscript supervision.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES

- 1 Nussenblatt RB, Whitcup SM. *Uveitis: fundamentals and clinical practice*. 3rd edn. St. Louis, MO: CV Mosby, 2004:409–19.
- 2 Theodore FH. Mycotic endophthalmitis after cataract surgery. *Int Ophthalmol Clin* 1961;4:861–87.
- 3 Narang S, Gupta A, Gupta V, et al. Fungal endophthalmitis following cataract surgery: clinical presentation, microbiological spectrum, and outcome. *Am J Ophthalmol* 2001;132:609–17.
- 4 Payne JF, Keenum DG, Sternberg P Jr, et al. Concentrated intravitreal amphotericin B in fungal endophthalmitis. *Arch Ophthalmol* 2010;128:1546–50.
- 5 Van der Lelij A, Rothova A. Diagnostic anterior chamber paracentesis in uveitis: a safe procedure? *Br J Ophthalmol* 1997;81:976–9.
- 6 Khan FA, Slain D, Khakoo RA. Candida endophthalmitis: focus on current and future antifungal treatment options. *Pharmacotherapy* 2007;27:1711–21.

Learning points

- ▶ Chronic postoperative endophthalmitis should always be considered in cases of persistent or recurrent inflammation in a previously operated or injured eye even many months after surgery.
- ▶ It is especially important to differentiate sterile postoperative inflammation from true infectious uveitis as these will require prompt specific treatment to avoid recurrences and a poor outcome.
- ▶ An early definitive diagnosis through intraocular fluid sample analysis is recommended to institute appropriate treatment in unclear situations.
- ▶ Classic pars planitis will show snowballs and snow banking, with or without evidence of peripheral retinal vasculitis and cystoid macular oedema. Bilateral disease, though asymmetrical at times, is the rule. A sole presentation of vitritis in one eye is atypical and should raise suspicion of malignant or infectious masquerade syndromes.
- ▶ In case of chronic intraocular inflammation not responding to conventional treatment, consider masquerades and infections.

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