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Sir,

A case of endogenous *Candida albicans* endophthalmitis resolving with itraconazole treatment without recourse to vitrectomy

We report the case of a 73-year-old woman who developed endogenous, bilateral, endophthalmitis during a protracted admission to I.T.U. following bowel resection for suspected tumour.

She presented with symptoms of decreased acuity and floaters. Indirect ophthalmoscopy revealed intraretinal and preretinal white lesions as well as large 'snowball' lesions in the vitreous in both eyes. Her best-corrected visual acuity was 6/9 in the right eye and 6/12 in the left. Repeated blood cultures showed no growth.

The severity of her systemic condition did not allow for early vitrectomy, therefore oral fluconazole was given, but despite 400 mg b.d. for 15 days, her vision deteriorated to counting fingers in the right eye and 6/18 in the left.

She subsequently underwent right vitrectomy and intravitreal injection of 10 μg amphoteracin B into each eye. A vitreous sample taken from the right eye during the procedure grew *Candida albicans* sensitive to fluconazole; however, despite postoperative treatment with oral fluconazole, 200 mg b.d., the endophthalmitis deteriorated in both eyes, with increased fungal lesions and a further decrease in visual acuity.

Because of her recent bowel surgery and recurrent episodes of bowel obstruction, we were concerned about adequate drug absorption. To ensure that a therapeutic serum level of antifungal agent was achieved, itraconazole was used in preference to fluconazole as serum levels can be monitored and oral dose adjusted in case of any malabsorption.

A radical improvement was seen on examination after 10 days of intravenous (i.v.) itraconazole 200 mg b.d. Serum concentrations were maintained in the therapeutic range. An oral maintenance dose of 200 mg b.d. was then given and tapered down to 100 mg b.d. over 3 months.

Treatment with itraconazole led to complete resolution of *C. albicans* endophthalmitis in both the vitrectomised and nonvitrectomised eye. Best-corrected visual acuity 4 months after presentation was 6/9-2 in both eyes.

Endogenous endophthalmitis is often associated with high mortality and poor visual acuity outcomes.[1] Bowel surgery for tumour is a common predisposing condition for endogenous endophthalmitis,[2] as is long-term i.v. catheter placement.[3] Compared with postoperative or post-traumatic endophthalmitis, patients with endogenous endophthalmitis are more likely to have fungal isolates with a predominance of *C. albicans*.[3]

Comment

The current, established treatment for this condition is pars plana vitrectomy with intravitreal injection of amphoteracin B.[1–4] Fluconazole is the antifungal shown to achieve the highest concentration in the vitreous following oral administration to white rabbits.[5] In this case, the right eye failed to respond to conventional treatment including vitrectomy, but both eyes responded to therapeutic serum levels of itraconazole.

This case suggests that a remarkable recovery in visual acuity is possible with antifungal treatment alone, without performing therapeutic vitrectomy.[6] The location of the fungal lesions may be predictive of the success of medical treatment. It has been suggested that only chorioretinal lesions respond to medical treatment, whereas extension into the vitreous requires surgery.[7] In this case, vitreous seeding responded to intravitreal amphoteracin and i.v. itraconazole without vitrectomy. Furthermore, although itraconazole is not currently first line in the treatment of *Candida* endophthalmitis, it should be considered when first-line agents fail to control the infection.[8]

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Sir,

Posterior retinal detachment without macular hole in high myopia: visualization with *en face* optical coherence tomography

During degenerative myopia, a congenital scleral weakening determines progressive globe enlargement, axial elongation, and formation of posterior staphyloma. In his series of 250 highly myopic patients, Curtin[1] has classified the posterior staphyloma in 10 groups: type 1, localized to the posterior pole; type 2, involving the macula; type 3, peripapillary staphyloma; type 4, nasal staphyloma; type 5, inferior staphyloma; and types 6–10, mixed staphyloma. Posterior retinal detachment without macular holes has been recently described in high myopia with optical coherence tomography (OCT).[2,3] The causes of the macular detachment have not yet been clearly elucidated, although vitreal traction and myopic stretching of the eye seem to play a major role in the pathogenesis. Visual acuity may range from counting fingers to 20/20. The recently introduced OCT ophthalmoscope provides coronal OCT scans (OCT C-scans) of the retina.[4–6]

Case report

A 44-year-old male patient underwent a regular check-up of high myopia. In both eyes, best-corrected visual acuity was 20/25 and refractive error was −11 D. Anterior segment was unremarkable OU and the intraocular tension was 19 mmHg OU. At fundoscopic examination, choroidal pallor, and tessellation, focal areas of deep choroidal atrophy and type I staphyloma were present in both eyes. Examination with *en face* ophthalmoscope (OCT/SLO, Ophthalmic Technologies Inc., Toronto, Canada) was performed. Longitudinal B-scan OCT (Figure 1a) showed in the left eye a retinal detachment extending from the peripapillary area to the macula without interruption. In the maculopapillary bundle (MPB) multiple hyporeflective cysts in the inner retina were detected. Inner retinal surface at this site was slightly hyper-reflective. Foveal thickness was consistently increased (365 μm) and thinning of the foveal neuroepithelium was present. The posterior hyaloid was partially detached and inserted in the papillary area and into the fovea. Coronal C-scan OCT of the same eye (Figure 1b–h) showed a large hyporeflective subretinal space involving the whole posterior pole from nasal to the disc to beyond vascular arcades, whose outer limits were clearly detectable. C-scans of the inner retina showed both the partial posterior hyaloid detachment and the cystic degeneration in the MPB. The surface of the cystic area appeared wrinkled and hyper-reflective. In the right eye, *en face* OCT examination detected incomplete PVD without macular traction and without any sign of retinal detachment. Visual field performed with Humphrey 30-2 programme was normal OU.

Comment

Foveal retinal detachment in high myopia may be associated or not with a macular hole.[2,7] In recent years, posterior detachment without macular hole has been evaluated with traditional B-scan OCT and the reported frequency ranges from 9% in a series of 78 eyes to 34% in a series of 19 patients.[2,3] The recently introduced *en face* OCT ophthalmoscope combines OCT and confocal ophthalmoscopy, allowing visualization of the retina in both longitudinal and coronal scans. In our case, the detachment of the whole posterior area had not been recognized at fundus examination and the *en face* OCT has allowed the fine visualization of its lateral limits. Furthermore, the overlaid red free/confocal OCT C-scan