CASE REPORT

Anterior capsular defect with acute anterior subcapsular cataract in herpetic keratouveitis

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Accepted 26 August 2014

SUMMARY

A 20-year-old man presented with a recurrent episode of herpetic keratouveitis in his right eye. The patient was treated with oral acyclovir and topical steroids. One week later the patient reported a sudden diminution of vision. Slitlamp biomicroscopy revealed the presence of a central anterior capsular defect and anterior subcapsular cataract. Dosage of steroids was temporarily increased and progression of cataract monitored. Subsequently, the anterior chamber reaction decreased and steroids were tapered.

BACKGROUND

Herpetic keratouveitis may have features of endotheliitis, disciform keratitis or necrotising stromal keratitis. This has been attributed to immunological reaction and live virus invasion. Herpes simplex virus (HSV) particles have been recovered from the aqueous of patients with HSV iridocyclitis.^{1 2} Only one study³ in the German literature reported a granulomatous response to anterior lens capsule as a manifestation of herpetic eye disease. On histopathology, it resembled the granulomatous reaction towards Descemet's membrane in advanced herpetic keratouveitis. The study attributed the anterior lens capsular defect to the herpes-associated autoimmune response against the basal membrane of the lens. The acuteness of cataract formation was proposed to be a consequence of contact of aqueous with lens fibres. Additionally, phacoanaphylaxis combined with secondary glaucoma was deemed possible.

CASE PRESENTATION

A 20-year-old man presented with symptoms of redness, pain, watering and photophobia in the right eye. He gave a history of similar episodes in the past and was diagnosed as a case of recurrent herpetic keratouveitis. The patient had best corrected distance visual acuity of 20/400. Slitlamp biomicroscopy revealed the presence of corneal oedema with keratic precipitates and anterior chamber (AC) cells (2+). Lens and posterior segment were normal. The fellow eye did not show any abnormality. Treatment was initiated, however, the patient presented 1 week later with further diminution of vision. A repeat examination revealed the presence of a central anterior lens capsular defect with early anterior subcapsular cataract. AC cells were still present (2+).

INVESTIGATIONS

Clinical photograph (figure 1) and anterior segment optical coherence tomography (ASOCT)

Figure 1 Slitlamp photograph showing keratouveitis along with central anterior capsular defect and anterior subcapsular cataract.

were performed on the second visit. The size of the anterior capsular defect (figure 2) was noted and the configuration and extent of the anterior subcapsular cataract registered.

TREATMENT

At presentation, oral acyclovir 400 mg (5 times/day) was started along with topical steroids (6 times/day) and a cycloplegic. On the second visit the patient was maintained on the same dosage of oral acyclovir while the dosage of steroids was increased (8 times/day) to prevent any further damage to the anterior capsule and endothelium.

OUTCOME AND FOLLOW-UP

The patient was kept on follow-up to observe any reaction in the AC due to lens fibres coming in contact with aqueous. As the AC reaction subsided at 3 weeks of follow-up, the frequency of steroids was gradually tapered. Oral acyclovir was continued in prophylactic dosage (2 times/day). At the

Figure 2 Anterior segment optical coherence tomography depicting anterior capsular defect and anterior subcapsular cataract.

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To cite: Arora T, Sharma N, Arora S, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2014-206056

last follow-up the patient had a vision of hand movement near his face due to healed keratouveitis and cataract formation. A combined corneal transplantation and cataract surgery has been planned for after a 1 year recurrence free period.

DISCUSSION

Herpetic keratouveitis shows variable clinical features. Iridocyclitis that accompanies necrotising disease is typically granulomatous and often recurrent. In severe cases, perilimbal injection is marked and the cornea may become oedematous and thickened. Dense, fibrinous flare with heavy, AC cell and medium-sized white keratic precipitates may be distributed widely over the endothelium.

A relatively unknown manifestation of herpetic keratouveitis is a defect in the anterior lens capsule. Bartz-Schmidt *et al*³ described the pathogenesis of lens capsule defect to be associated with herpes-associated autoimmune response against the basal membrane material of the lens. The formation of cataract at that stage is due to influx of aqueous through the defect. The defect of the anterior capsule in our case was 325 microns as measured on ASOCT. The inflow of aqueous hydrates the anterior lens fibres and leads to characteristic anterior subcapsular cataract formation. The cataractous changes start from the capsular defect towards the anterior subcapsular plane.

Our patient showed decrease in AC reaction on increasing the dosage of steroids. Careful examination was required to subsequently taper the steroids. As the AC reaction subsided on follow-ups, cataract surgery was deferred due to the risk of recurrent herpes infection. The patient was planned for a triple procedure after a 1 year recurrence free period. In the case³ reported earlier, cataract surgery was performed under cover of oral acyclovir due to continued AC reaction.

To the best of our knowledge this is the first case in the English literature that reports the anterior capsular defect with acute subcapsular cataract formation as a consequence of herpetic keratouveitis.

Learning points

- ▶ Sudden anterior capsular defect can follow an acute episode of keratouveitis leading to anterior subcapsular cataract formation.
- ▶ Careful observation should be carried to rule out lens-induced inflammation on follow-ups.
- ▶ Prophylaxis of oral acyclovir should be started in such patients when cataract surgery is planned.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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