CASE REPORT

Posterior scleritis presenting as conjunctivitis in a child

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Accepted 26 October 2016

SUMMARY

A 14-year-old male child presented with redness and decreased vision in the right eye for 7 days. He was being treated for viral conjunctivitis for right eye at a local hospital. His visual acuity was 6/24 OD and 6/9 OS. Slit-lamp examination revealed diffuse conjunctival congestion in the right eye. Dilated fundus examination revealed mild disc hyperaemia and retinal striae in both the eyes. A peripapillary serous detachment of macula in the right eye was seen on optical coherence tomography. B scan ultrasonography revealed increased scleral thickening and characteristic 'T' sign in both the eyes. Investigations revealed no other relevant systemic association. A diagnosis of bilateral posterior scleritis was made. The patient was started on topical steroids and oral non-steroidal anti-inflammatory drugs. Within 2 weeks of therapy the visual acuity improved to 6/6, the serous detachment resolved and retinal striae reduced in both the eyes.

BACKGROUND

Posterior scleritis is rare in children. In contrast to adult scleritis, in paediatric age, it may be painless and presents with mild blurring of vision only.^{1 2} Associated anterior scleritis is seen in only 20% of the cases.¹ Hence it is frequently underdiagnosed. However, it is potentially sight threatening and the treating ophthalmologist must be aware of this entity.

In our case the child was treated for conjunctivitis initially. The lack of severe pain, mild congestion and a resolution of redness in the other eye with topical medications probably led to a biased diagnosis. In addition, deferring the fundus evaluation in view of active infection further delayed the diagnosis. However, the characteristic sign on fundus examination, when the child presented to us, clinched the diagnosis. Thus a high degree of suspicion must be kept in mind while treating cases of conjunctivitis in children, especially when it is associated with a decrease in visual acuity.

CASE PRESENTATION

A 14-year-old male child was brought with symptoms of redness of the right eye and loss of vision in right eye for 1 week. The child was on treatment for conjunctivitis (suspected viral) from a local hospital. He had a similar attack of redness in the left eye before 1 month for which he was treated for conjunctivitis in a local hospital. The best-corrected visual acuity was found to be 6/24 OD and 6/9 OS. The vision did not improve with pinhole. On slit-lamp examination of the anterior segment revealed diffuse conjunctival congestion in right eye

(figure 1). There was no such congestion in the other eye (figure 1). No other abnormality was found in the anterior segment. Dilated fundus examination revealed cup disc ratio of 0.2:1 oculus uterque associated with a mild hyperaemic disc in both the eyes. There was presence of multiple retinal striae over the macular area in both the eyes (figures 2A and 3A). There was mild proptosis OD and extraocular movements were normal OU. Intraocular pressure was recorded to be 14 mm Hg OD and 16 mm Hg OS by the non-contact tonometry method.

Figure 1 Clinical photograph showing mild congestion in the right eye (A) and a normal looking left eye (B).

Figure 2 Fundus photograph showing multiple retinal striae in the right eye at first visit (A) and after 2 weeks of treatment (B).

Figure 3 Fundus photograph showing multiple retinal striae in the left eye at first visit (A) and after 2 weeks of treatment (B).

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To cite: Mallick J, Pujahari S, Maharana PK. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2016-217968

Figure 4 OCT picture showing serous detachment of the macula in the right eye at the first visit (A) and after 2 weeks of treatment (B). OCT, optical coherence tomography.

Figure 5 Ultrasonography picture showing characteristic 'T' sign in the right eye (A) and the left eye (B).

INVESTIGATIONS

Posterior segment optical coherence tomography (OCT) examination revealed peripapillary serous retinal detachment in the right eye (figure 4A). OCT examination was irrelevant in the left eye. B scan ultrasonography revealed presence of retinal thickening with a characteristic 'T' sign in both the eyes (figure 5). A provisional diagnosis of bilateral posterior scleritis was made. Investigations included routine blood investigations, complete blood count, C reactive protein, erythrocyte sedimentation rate, renal and liver function test, rheumatoid factor, antinuclear antibody, antineutrophil cytoplasmic antibody, serum ACE, Mantoux test and chest X-ray. However, it was diagnosed to be idiopathic posterior scleritis as no associated systemic disease was found.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis included any subretinal mass like choroidal neoplasia, orbital inflammatory disease, thyroid-related ophthalmopathy, papilledema, Vogt-Koyanagi-Harada syndrome, orbital cellulitis and tuberculosis. Ultrasound B scan and CT scans excluded the presence of any mass lesion. Other associated diseases are excluded by relevant investigations.

TREATMENT

The patient was started on topical steroid (prednisolone acetate 1%) four times a day and oral non-steroid anti-inflammatory

drugs (NSAIDs) (naproxen 20 mg/kg body weight in three divided doses). Considering the growing age of the child, an opinion was sought from the paediatrician to opine on starting oral steroid. Unfortunately the patient did not return with the investigation report as per the advice. The patient turned up after 2 weeks of starting the therapy.

OUTCOME AND FOLLOW-UP

At 2-week follow-up the congestion had decreased. The visual acuity had improved in both the eyes to 6/6. The serous detachment had disappeared in the right eye (figure 4B). However, the retinal striae were persisting although in reduced numbers compared to the first follow-up (figures 2B and 3B). The child's blood investigation reports revealed anaemia hence the paediatricians were against starting oral steroid without a prior bone-marrow biopsy. In addition, the child was showing good response to oral NSAIDs, hence it was decided to continue the current therapy and the child was asked to review after 1 week.

DISCUSSION

Posterior scleritis is a potentially blinding disease.^{1 2} The inflammatory process involves sclera posterior to the ora serrata. It may be associated with concurrent anterior scleritis. It accounts for 2–12% of all scleritis cases.^{1 2} Posterior scleritis in the paediatric population is a rare entity. In the paediatric population it is often idiopathic with no associated systemic disease, or

concurrent anterior segment inflammation or pain and occurs both in boys and girls in equal frequency.²

The study by Cheung *et al*¹ that included 20 eyes of 13 patients is the largest series on posterior scleritis in the paediatric age group. The reported concurrent anterior segment signs included anterior uveitis (80.0%) and anterior scleritis (20.0%) in this series. Posterior segment signs included optic disc swelling (95.0%) and retinal striae (85.0%). No underlying connective tissue disorder was diagnosed in any patient. Scleritis resolved with oral NSAIDs alone in 1 patient (8%) while some form of immunosuppressive therapy was required in all other cases. Bilateral presentation was present in 42.1% of the cases.¹ Most of the other published reports on posterior scleritis in paediatric age groups are single case reports.^{3–6} A review of these reports suggests that posterior scleritis differs from adult scleritis in following ways; boys are affected more than girls; association with systemic disease is uncommon; concurrent anterior scleritis is less common and visual outcome is relatively better.^{3–6}

In our case the affected patient was a 14-year male child with bilateral presentation. There was no systemic association and the patient responded favourably to oral NSAIDs. The diagnosis was missed earlier. The various factors that might have led to the wrong diagnosis include the absence of pain, minimal conjunctival congestion and the response of the right eye to topical therapy. However, the reduction of visual acuity should have alerted the treating physician.

Thus, posterior scleritis in paediatric age group can present with symptoms suggestive of conjunctivitis. However, careful slit-lamp examination can reveal the underlying deep scleral vessel involvement. Pain may be absent, but a decrease in visual acuity must alert the ophthalmologist of some serious underlying disorder. We believe all such cases must undergo dilated fundus evaluation.

Learning points

- ▶ The presenting features of posterior scleritis in the paediatric age group are less dramatic as compared to that in adults.
- ▶ Posterior scleritis may not be associated with anterior segment signs.
- ▶ Pain may be absent and the presentation can mimic simple viral conjunctivitis.
- ▶ Fundus evaluation must not be deferred in cases of conjunctivitis associated with a decrease in visual acuity.

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Contributors JM has contributed in preparing the manuscript and recording data. SP has contributed in recording the data and figures. PKM has contributed in conceptualisation, final editing and management of the case.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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