A case report of insidious orbital cellulitis in a 15 year old

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Case Description

A 15 year old boy presented to eye casualty with an acutely swollen and erythematous left eye. A diagnosis of preseptal cellulitis was made and he was discharged with a 10 day course of oral co-amoxiclav. 3 days later he re-presented with diplopia, despite the swelling and erythema having significantly improved. An MRI revealed a large sinus collection, and an adjacent abscess in the medial wall of the orbit. Having revised the diagnosis to orbital cellulitis, the patient was admitted, intravenous antibiotics were begun and he underwent emergency surgical drainage (where 20ml of pus was drained). Over the next 5 days the patient remained stable and the swelling, erythema and diplopia improved. The patient was discharged with a 2 week course of oral co-amoxiclav, to be followed up in outpatient ophthalmology clinic.

Presentation to Hospital

- Diplopia on left lateral gaze
- Mild erythema and swelling of left eyelids
- Otherwise fit and well
- No preceding illness
- On examination: alert and comfortable at rest, no pain

Investigations

- Observations stable
- Hb 161 g/L
- WCC $7.4 \times 10^9/L$
- Neu $4.8 \times 10^9/L$
- Platelets $260 \times 10^9/L$
- **CRP 64 mg/L**

Imaging

- (a) T2 axial shows sinus infection, proptosis and collection in medial orbit
- (b) STIR coronal shows sinus infection and high signal medial aspect left orbit
- (c) Post contrast T1 with fat saturation. Collection will not enhance but inflammation does
- (d) T1 coronal pre contrast (**See Figure 1**)

Figure 1: MRI Imaging. a) T2 axial b) STIR coronal, c) post-contrast T1 coronal, d) T1 coronal pre-contrast

Discussion

The distinction between preseptal and orbital cellulitis is important. In this case the former was diagnosed initially - Consequently, oral antibiotics were able to improve the clinical picture while masking the insidious development of an orbital abscess.

Preseptal cellulitis involves the soft tissues anterior to the orbital septum. Presentations include normal vision, unaffected ocular movements and no proptosis¹. Orbital cellulitis typically presents with proptosis, ophthalmoplegia and recent history of sinusitis or URTI.

Orbital cellulitis most commonly spreads from the paranasal sinuses. The ethmoid sinus is notorious due to the thin communicating wall of the medial orbit². Associated sinusitis has been reported as high as 100%³. It is surprising then that this patient felt so well before, and during, the course of his illness – and is a reminder to us all that ‘typical presentations’ cannot always be trusted as a diagnostic tool.

References & Acknowledgements

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