Reviewer’s report

Title: Necrotizing anterior uveitis, anterior scleritis and ischaemic optic neuropathy in association with Streptococcal Toxic Shock Syndrome

Version: Date: 8 June 2007

Reviewer: Fion Bremner

I am familiar with the literature and believe that this case meets one of the 7 criteria for evaluation in the journal: New associations or variations in disease processes

Has the case been reported coherently?: No

Is the case report authentic?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: No

Does the case report have explanatory value?: No

Does the case report have diagnostic value?: No

Will the case report make a difference to clinical practice?: No

Comments to authors:

General
This case report describes the blinding complications of streptococcal septicaemia. There seems little doubt that the eye signs described were caused by this patient’s severe illness. However I have a number of comments, particularly regarding the interpretation of the ocular signs and the use of diagnostic labels by the authors.

Revisions necessary for publication

Case Report:

1. P3 Para 2 Line 6: this description of the pupil is unclear and needs re-writing. You state that the ‘pupil was atrophic’ – do you mean the iris was atrophic? And was this conclusion based on finding iris transillumination? If so, was this sectoral atrophy suggestive of iris ischaemia (such as seen in zoster infections or after an attack of acute angle-closure glaucoma)? Or did you have some other meaning for ‘atrophic’ in mind?

2. Figure 1: Although difficult to see on this photo, it looks to me as though there is rubeosis of this iris – which would explain the immobile irregular pupil and the refractory ocular hypertension. If not present this needs to be stated. In addition, both Figure 1 and Figure 2 clearly show keratopathy which needs to be mentioned in the text and discussed regarding aetiology.

3. P3 Para 2 Lines 8-9: the diagnosis of ‘ischaemic optic neuropathy’ (ION) cannot be made solely on the basis of a pale disc – it would be necessary at very least to have documented sudden visual loss and demonstrated initial disc swelling. The authors can only safely conclude that this patient has optic atrophy (and then speculate in the discussion as to the likely pathogenesis). The diagnosis of ION should be changed to optic atrophy throughout the text and also in the title and abstract.

4. P3 Para 2 Lines 8-9: the diagnosis of ‘necrotising anterior uveitis’ is also not acceptable because no such entity exists in any standard classification of uveitis. Were the posterior synechiae the only evidence of inflammatory eye disease? If other signs were present on slit-lamp examination these should be described and the uveitis classified along conventional lines. However if as I suspect the patient was bed-bound and too ill to have slit-lamp biomicroscopy then no firm conclusion can be reached over the significance of the posterior synechiae and alternative interpretations of this physical sign must be discussed, including anterior segment ischaemia (particularly in view of point 2 above and the later development of necrotising scleritis).

5. P3 Para 2: in contrast to point 4 above, this patient clearly did have necrotising anterior scleritis, an entity
that is part of the standard classification of scleritis, and which carries important implications both in terms of aetiology and prognosis. This term should be used here, and also in the discussion, title and abstract.

6. P3 Para 2 Last line: we should be told the final visual acuity and how long this was measured after the start of her illness.

Discussion:

1. P4 Parag 2-3: several new facts are introduced in the discussion section (e.g. the presence of a cotton wool spot in the unaffected eye and the serology results) which should instead be stated in the case report section.

2. P5 Para 2 Line 3: in the final paragraph of the discussion section we are told this patient had DIC, but this was not mentioned previously nor is the evidence for this conclusion given or its relevance to the ocular findings discussed.

3. P5 Para 2 Line 3: in the final paragraph of the discussion section we are also told this patient had 'toxic shock syndrome', but again this was not stated in the case report and no evidence has been given to support this conclusion. Instead we are told in the case report (1st para) that the patient had 'severe sepsis' which implies presence of the infecting agent (Strep. pyogenes) in the blood and not the toxin. This distinction is critical for correctly interpreting the ocular findings and needs to be clarified.

4. I would like to see consideration given to alternative interpretations of these ocular findings. For example, if the patient had a significant septicaemia could she have had endogenous endophthalmitis to account for the posterior synechiae, optic atrophy and irreversible visual loss? Alternatively (and most likely in my view), did she have an immune-complex vasculitis causing central retinal artery occlusion, anterior segment ischaemia, iris rubeosis, ischaemic keratopathy and necrotising anterior scleritis – (and was there any evidence elsewhere of a systemic vasculitis, e.g. nephropathy, skin rash etc)?

What next?: Revise and resubmit

Quality of written English: Needs some language corrections before being published