Reviewer’s report

Title: High-dose steroid therapy for idiopathic optic perineuritis: a case series

Version: 1 Date: 26 April 2010

Reviewer: Valerie Purvin

Which of the following following best describes what type of case report this is?: An unexpected event in the course of observing or treating a patient

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: Yes

Does the case report have explanatory value?: Yes

Does the case report have diagnostic value?: No

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

The manuscript is a report of 3 patients with optic perineuritis (OPN) responsive to steroid treatment. The authors’ point in reporting these cases is that the literature has indicated a poor visual prognosis in patients in whom treatment is delayed.

Introduction. I don’t think the distinction between “classic” OPN and current use of the term OPN is quite accurate. Historically the term has been used to describe different entities but all have in common inflammation around the optic nerve. So the very first sentence “In patients with classic OPN, inflammation has been reported to be localized around the optic nerve” is misleading.

The abstract states that all 3 patients presented with “gradual and painful loss of vision” but in fact in Cases 1 and 2 pain is not mentioned. I don’t know what the
authors mean by “gradual” but the visual loss in OPN is typically acute to subacute, not what I would call gradual. In Cases 1 and 3 the time course is not specified; Case 2 had visual loss that “persisted for several months” but that is not the same as gradual. All cases of purported OPN should have an explicit description of time course and of pain, including the more specific history of pain with eye movement. This is particularly important because the characteristic peri-neural enhancement can also represent optic nerve sheath meningioma and the distinction of this tumor from OPN is based on the time course and presence of pain.

Introduction. It isn’t quite true that the diagnosis of OPN requires MRI; it could alternatively be made from pathologic material. It is true that currently the diagnosis is most commonly based on the MRI findings along with the clinical characteristics. Some cases in the literature have been diagnosed from pathologic examination. I think what the authors mean is that the distinction between optic neuritis and optic peri-neuritis is radiographic.

Cases. The visual field findings are inconsistent with the visual acuity measurements. Case 1 had VA of 20/400, Case 2 was 20/300 and both are said to have just an arcuate scotoma. In Case 3 acuity was 20/300 with a paracentral scotoma. Surely the central field would be abnormal in eyes with such marked decrease in visual acuity. This might take the form of central or generalized depression or the scotoma might include fixation.

Cases. The description of the laboratory investigation should be more specific rather than using generic terms such as ‘hematology tests’. Given the reported causes of OPN, specifics should include ACE, FTA, ANCA’s and in older individuals ESR and CRP. It isn't necessary to include actual values for each of these tests, just specify that they were tested.

The authors refer to 2 of their cases as having a delay in treatment. This does appear to be true for Case 2 but the first patient did receive prednisolone at doses of up to 30 mg/day prior to presentation. This doesn’t really count as a treatment delay.

Introduction. The statement in the Abstract that OPN “becomes refractory when treatment is delayed” is not quite accurate. Visual loss may be permanent but the inflammatory response does not continue, which is the implication of the term ‘refractory’.

In Case 2 the radiographic appearance “suggested idiopathic OPN”. The MRI appearance can suggest OPN but not specifically of the idiopathic variety. OPN due to specific infectious/inflammatory disorders is not distinguishable from the idiopathic variety on neuroimaging.

Figures. All of the MRI figures are fat-suppressed T2 weighted images. The diagnostic sequence for the diagnosis of OPN is a post-contrast fat suppressed T1-weighted image. On these sequences the increased area of hyperintensity around optic nerves could just as easily be increased CSF which would be the
case if there is optic atrophy. The correct sequence should be provided instead of these.

Figures. The “transverse” images should be referred to as “axial”.

Figure 1. The extra-ocular muscles are said to show “slight swelling”. I would change this to moderate swelling.

Overall, I think the case with the good response despite delayed treatment is worth reporting but it does not seem that the other two add significantly to our understanding of this disorder.

**Quality of written English:** Acceptable

**Declaration of competing interests:**

I declare that I have no competing interests.