Reviewer’s report

Title: Painful Ophthalmoplegia with Normal Cranial Imaging

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Reviewer: Ping-Kun Chen

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The authors retrospectively collected painful ophthalmoplegia patients with normal MRI findings in this study and tried to find the differences of the clinical presentations and treatment responses among these three diseases. However, several questions still should be clarified.

Major Compulsory Revisions

Methods
1. There are only 3 patients in the Ophthalmoplegic migraine group. In addition, the diagnosis criteria of Tolosa-Hunt syndrome including the treatment response of steroid. It is difficult to compare the treatment response among these three groups.

2. Page 7, the inclusion criteria for THS is very unclear. “patients with idiopathic painful ophthalmoplegia fulfilled THS criteria and self-remission within 3 months were also considered as those with THS”. If the patients fulfilled the THS criteria, why do we need to consider about the self-remission? Do you mean the THS group including patients fulfilled the criteria of THS and some patients with only partial response to glucocorticoid treatment? Again, if your inclusion criteria limited the treatment responses, how could you compare that among groups?

3. Page 8, line6, the OM criteria is wrong. The criteria should be “migraine like headache” followed by “ophthalmoplegia” within 4 days. The patients do not need have “recurrent migrainous headache”. Ophthalmoplegia is not only “ocular motor neuropathy”.

Results
4. The patient numbers of idiopathic inflammatory Tolosa-Hunt syndrome (21 patients) were fewer than benign Tolosa-Hunt syndrome (25 patients). The diagnostic rate of MRI seems low. Do you have any explanation for this?

5. The diagnosis of OM in 1 patient with multiple recurrences and multiple cranial nerves involvement should be questionable. Actually, it is very rare in adult onset OM patients with multiple cranial nerve involvement. To my knowledge, there is no report now. It seems this patient had 3 attacks and each attack affecting multiple cranial nerves. Could you provide more detail to confirm the diagnosis of this patient?

6. Table 1 is very confusing and seems to have several problems.
A. Ocular diabetic neuropathy group: 25 patients in this group, 2 of them with recurrences but only 26 episodes. It is impossible, right?

B. The recurrence, N means patients numbers or attacks?

C. The ptosis rate is very low in THS and OM group, even the CN3 is the most frequent involved cranial nerve. Do you have any explanation?

Minor Essential Revisions

1. In this study, except patients with OM, the other idiopathic painful ophthalmoplegia patients with normal MRI findings were separated into patients with and without DM. If the patients had DM, they will be grouped in ocular diabetic neuropathy, the rest of them grouped in benign THS. So, the difference of HbA1C in groups is because of the inclusion condition, no a surprising result. I suggested removing the discussion of HbA1C.

**Level of interest:** An article whose findings are important to those with closely related research interests

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.