Reviewer's report

Title: Hashimoto's encephalopathy: clinical features and outcomes in Chinese patients

Version: 1 **Date:** 26 October 2011

Reviewer: Thashi T Chang

Reviewer's report:

Hashimoto Encephalopathy (HE) is a rare neurological disorder, thought to have an autoimmune aetiology, in which clinical manifestations are protean and non-specific. Hence, the authors' attempt to characterise the clinical manifestations in Chinese patients is commendable. However, this study suffers from the limitations of a retrospective analysis, and this deficiency is particularly magnified by the inherent problem of HE, which is, lack of definitive diagnostic criteria.

Major Compulsory Revisions

HE is a diagnosis of exclusion. The authors do not indicate whether the other well recognised autoimmune encephalopathies have been excluded by testing for NMDAR, VGKC, AMPAR, GABABR, GAD, Gly-R antibodies in their patients (see review by Angela Vincent and others in Lancet Neurol 2011;10:759-72), whether PCR for viral antigens including HSV was done on CSF to exclude viral encephalitides and whether demyelinating diseases such as ADEM were excluded. The misclassification of patients as HE and their subsequent clinical characterization will further distort the nosology of HE. The authors claim that not all HE patients present with encephalopathy but this too could be due to the misclassification of disease given that anti-thyroid antibodies do occur in the normal population. Furthermore, in some patients it appears that an elevated anti-thyroid antibody titre has been the only criterion for diagnosis of HE (eg. patient 2).

Minor essential revisions

The authors state the 'upper limits' for thyroid antibodies in their institution but these differ from the reference ranges that are subsequently stated. This is confusing and need clarification.

The EEG and MRI changes must be related to the patients' clinical profiles in the table.

The hippocampal signal changes in the MRI Figure 1 (AB) are better demonstated in coronal cuts through the hippocampus. The authors must explain how this is different from VGKC antibody-associated limbic encephalitis.

The authors must explain why the MRI appearance of figure 1 (CD) is not ADEM.

The authors state ‘complete’, ‘partial’ recovery and ‘relapses’ during recovery without stating objective assessments such as MMSE. This needs to be substantiated.

The authors must explain how they excluded limbic encephalitis in patients with memory disorders.

The authors must explain the rationale for treating patient 1 with levothyroxine given that the patient was euthyroid, the rationale for nerve growth factor in patient 4 and 11, and the basis of the dexamethasone dose in patient 12.

Level of interest: An article of limited interest

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests