Reviewer's report

**Title:** Clinical, Radiographic Characteristics and Immunomodulating Changes in Neuromyelitis Optica with Extensive Brain Lesions

**Version:** 2  **Date:** 24 January 2013

**Reviewer:** Jun-ichi Kira

**Reviewer's report:**

I still have several major concerns.

1. The authors stated that the major difference between tumefactive-like lesions and PRES-like lesions is their change over time on MRI. However, the authors conducted follow-up MRI in only two patients with tumefactive-like lesions and one patient with PRES-like lesions. At least two other patients with tumefactive-like lesions were not subjected to follow-up MRI. Therefore, how did the authors discriminate tumefactive-like and PRES-like lesions in these two patients? In addition, the above-mentioned three patients who underwent follow-up MRI all showed uniform resolution of their lesions. The authors should describe how long the extensive brain lesions persisted in each patient. Without this detailed follow-up MRI data, one cannot differentiate tumefactive-like lesions and PRES-like lesions.

2. ADEM-like lesions: The authors cited two papers that reported the appearance of ADEM-like lesions in NMO patients. However, the authors should compare the MRI features of their NMO patients with ADEM lesions that appeared independent of NMO. ADEM that is not associated with NMO does not usually show such diffuse extensive lesions as described by the authors. Thus, “ADEM-like lesions” should not be used to describe these diffuse lesions.

3. The authors claim that ADEM-like lesions are acute lesions; however, none of the ADEM-like lesions observed were reduced or resolved despite immunotherapy. Rather, the ADEM-like lesions remained unchanged or even expanded. How could this occur if they were acute lesions? I think these asymptomatic diffuse ADEM-like lesions were not actually acute lesions but rather chronic lesions, which would explain why none of them were resolved by immunotherapies.

4. The authors stated that the extensive brain lesions showed increased intensity on DWI and increased ADC; however, vasogenic edema usually shows increased ADC but decreased or iso-signal intensity on DWI. Therefore, I think that these extensive brain lesions reflected “T2 shine-through” effects rather than vasogenic edema.

**Level of interest:** An article of limited interest
Quality of written English: Not suitable for publication unless extensively edited

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

Declaration of competing interests:

I have no competing interest.