Reviewer's report

Title: Spectrum of Centosome Autoantibodies in Childhood Post Varicella Acute Cerebellar Ataxia

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Reviewer: Ban-Hock Toh

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Accept after discretionary revisions

This is an interesting paper that reports the novel observation of the association of autoantibodies to centrosomes in varicella and in post-varicella ataxia. The paper should be of wide interest to readers of the journal.

1. Comments

a) Discretionary revisions
1. The observation that 11/12 children with post-varicella ataxia and 4/5 children with uncomplicated varicella infections have these autoantibodies suggest that these autoantibodies are a prominent feature of varicella infections and are not restricted to post-varicella ataxia. What seems restricted to post-varicella ataxia are autoantibodies to pericentrin as they were observed only in 5/12 patients.
2. The title of the paper is misleading as it does not take into account the findings in varicella without ataxia.
3. The observation that in addition to varicella infections, 1/1 child with post-EBV ataxia, 2/2 with acute disseminated encephalomyelitis, and 2/2 with cerebellitis had these autoantibodies to centrosomes suggest that these antibodies may also be a particular feature of ataxia arising as a consequence of inflammatory disease in the cerebellum. This suggestion is supported by the observation that these antibodies were not found in all 6 patients with ataxia telangiectasia. The only confounding observation is that 1/2 with neuroblastoma with ataxia also had these antibodies, raising the question whether this child had a complicating inflammatory lesion in the cerebellum.

b) Compulsory revisions
1. Controls are critical here. The paper reports that "none of 12 sera from other disease groups or normal controls" reacted with pericentrin". If the "other disease groups" refer to those in table 1, then the count I have is 13 and not 12. The authors should also indicate the number of the "normal controls" that were tested and this should be stated in the methods and the results. The methods also refer to "other control sera were from ongoing serological studies in the advanced Diagnostics Laboratory". Are these normal controls or disease controls? If disease controls, what were these other diseases and how many of these sera were tested for autoantibodies to centrosomes?
2. Fig. 4. The photomicrographs suggests that the immunofluorescence staining by rabbit antibodies to pericentrin are displayed in (b,d) and not (b,c) as suggested by the legend. Similarly are the Bergman glia cells shown in (c,d) rather than (a,c) and the Purkinje cells in (a,b) rather than (c,c)?
Competing interests:

None declared.