Reviewer's report

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

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Reviewer: Marilyn Manco-Johnson

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This manuscript describes novel assays to detect autoantibodies reacting against brain centrosomes in children with post-varicella ataxia and related conditions. The authors tested patient serum for reactive antibodies against cryopreserved cerebellum tissue as well as recombinant centrosome proteins. In table I, the authors report that reactivity to various centrosome proteins was detected in 25 to 50% of children with post-varicella ataxia.

The methods do not describe the novel assay in a way that the reader can make an informed opinion regarding the stated findings. The assay is said to be performed in controls, but there is no description of control conditions: criteria for control sample collection, inclusion and exclusion criteria for healthy children and/or adults including ages, gender, recent infections, etc. No number of control subjects is given. There is no data regarding background noise of the assay, variability of results in normals, etc. There is no demonstration in the figures of typical results from healthy subjects compared with children with post-varicella ataxia. It is not possible to determine whether results in the various disease states do or do not overlap results found in the control subjects.

In addition, the gold-standard for post-infectious antiphospholipid antibody assays is a functional clotting assay. ELISA assays can be used as confirmatory but should not be primary. Similar to the comments above, there is insufficient data given to adequately evaluate this assay.

Validation experiments for the various recombinant proteins are not presented in adequate detail.

The numbers of children with conditions other than post-varicella ataxia are too small for results to be evaluated.