Reviewer's report

Title: White matter connectivity in children with Autism Spectrum Disorders: a Tract-Based Spatial Statistics study

Version: 1 Date: 7 September 2012

Reviewer: Senthil K sundaram

Reviewer's report:

Major Compulsory Revisions:

1. How did they perform the MRI in typically developing (TD) children? Were they sedated with general anesthesia?

2. Both high and low functioning ASD patients are included. There is no attempt to present the results in these two important sub-groups.

3. The age range (2-12) is too large. This makes the interpretation harder. The authors observed increased FA in their sample which is entirely plausible. Nevertheless, it is likely that the switch from high FA to low FA perhaps occurs somewhere within their age range with older kids (say, those between ages 8-12) showing lower FA and younger kids showing even higher FA. The opportunity to investigate when and whether such an age-dependent FA switch occurs in ASD is obscured by this large age range.

4. There are too many comparisons for a sample size of 22 ASD patients and 10 TD children. Given that they had several significant findings perhaps obviates the need to correct for multiple comparisons but this needs to be explicitly justified. The authors did not make any attempt to discuss this issue.

5. One of the biggest issues in ASD is perhaps the enormous heterogeneity of the mechanisms by which the imaging and clinical abnormalities are generated. In fact, abnormal connectivity in different tracts and somewhat conflicting results between studies is not uncommon in this field. A more detailed discussion about this substantive issue is needed. Even though this specific section needs to be expanded, the overall manuscript is too long. Lot of explanatory material need to be removed to decrease the manuscript length.

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