Reviewer's report

Title: Plasma Prolyl Endopeptidase Activity in Children with Autistic Spectrum Disorders

Version: 3  Date: 12 October 2004

Reviewer: Vijendra Singh

Reviewer's report:

General

The authors of this article have made an interesting finding but it is not an enthusiastic article. There are several deficiencies as listed below.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. The writing is not acceptable. The article lacks the standard style of writing and will need extensive revisions for technical writing. The sentence structure is one of the major pitfalls while the organization of the article needs to be revised into various headings: Abstract, Introduction, Materials and Methods, Results, Discussion, etc.
2. The Discussion and Conclusions section should be improved to include other important biomedical research on autism spectrum disorders.
3. The source of the funding for this study must be disclosed.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. The title of the article does not reflect their finding. It should be changed to something like this "Elavated Levels of Prolyl Endopeptidase Activity in the Plasma of Children with Autistic Spectrum Disorders."
2. The Abstract does not accurately convey what was found. It must be completely re-written to include the nature of their study and their findings only. In addition, the "plasma EDTA (p-EDTA)" should be changed to "EDTA plasma" and there is no need to abbreviate it as "(p-EDTA)." Moreover, the "non-ASD children" group should be clarified to explain the health status of these subjects, ie, were they healthy children or the other-disease children group.
3. The Background of the article should be revised to include specific background about the disorder ASD, the enzyme PEP and it's role if any in neuropsychiatric disorder and their hypothesis for doing this study. Be as specific as possible in that regard.
4. Under the Methods section, the term "participants" should be changed to "subjects" and include the name of the anaesthetic that was administered into ASD children. To that end, authors should also explain if the gender of the subjects in the study and the administration of the general anaesthesia to ASD children but not to non-ASD children could influence the outcome of their study.
5. Although the details of the Methods are sufficiently outlined the data are not quite sound and not well controlled. The Results showed only a moderate change in PEP enzyme activity between the ASD and non-ASD groups but the data were highly variable in the ASD group. This raises an important question of the effect of general anaesthetic on PEP enzyme activity, as it was given to ASD children but not in non-ASD children. And, is there any effect of gender (males vs females) on the activity of PEP enazyme? The Figure 2 shows a greater variability of data for ASD children but it
seems as if 4-5 out of 18 (about one-quarter of the group) of them have lower than the normal level of the enzyme activity. Overall, the number of children studied (18 ASD and 15 non-ASD children) is too small to permit a clear-cut observation and interpretation; perhaps by studying more subjects the authors should expand the "n" value for each group. The "n" values should be shown in both the Figures.
All pages of the article should be numbered.

**Which journal?:** Not appropriate for BMC Medicine: an article of only archival interest, but might be suited to a subject-specific BMC journal

**What next?:** Offer publication in a subject-specific BMC journal after minor essential revisions

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No

**Declaration of competing interests:**

"None"