Reviewer's report

Title: Pilot study indicate role of preferentially transmitted Monoamine oxidase gene variants in behavioral problems of male ADHD probands.

Version: 0 Date: 30 Jul 2017

Reviewer: David Comings

Reviewer's report:
This is a study of 190 nuclear Indo-Caucasoid families with ADHD to examine the possible role of MAOA and MAOB genes. Of 58 potential variants 15 were found to be polymorphic in this study. This is a well executed and data-rich study. The major finding was that 3 markers of MAOA (p values of 0.4, 0.4 and .0001) and 6 markers of MAOB (p values of .002 to .0001) showed significant maternal over-transmission to male but not female probands. Different behavioral traits of male probands also showed significant associations. The age of the mother (<= 26 yrs versus >26 yrs) also showed an association of several MAOA but not MAOB variants with male probands. This was of interest to this reviewer who also found a significantly greater association of the DRD1 gene with some behavior traits for probands with a maternal age of <= 26 yrs versus >26 yrs. (Comings DC, MacMurray JP. 2006. Maternal age at the birth of the first child as an epistatic factor in polygenic disorders. Am J Med Genet B Neuropsychiatr Genet 141B(1): 1-6.)

Comments.
1. I think it is always useful in association studies showing significant p values to calculate r2 or other variables showing the percent of the variance due to the gene in question. In most studies of polygenic disorders this is usually 2 % or less. This is helpful to the reader to gain an appreciation of the relative importance of the gene in question especially in relation to whether pharmaceutically modifying the gene in questions is likely to be helpful.

2. In table 1, for MAOB all but one of the 7 loci show a significant degree of preferential transmission of certain alleles to male probands. This is to be expected since these loci are
in linkage disequilibrium. However, Also in table 1, the preferential transmission is highly significant for one locus (rs6323), borderline for two (p = .04) and not significant for four and yet the loci at MAOA are also in LD similar to MAOB. Any comments on this difference?

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.
Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.
Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.
Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
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Acceptable

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