Reviewer's report

Title: Elevated Serotonin Transporter Density of Midbrain in Mixed Mania: A Case-Control

Version: 1 Date: 28 June 2004

Reviewer: Georg Berding

Reviewer's report:

General

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

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

Discretionary Revisions (which the author can choose to ignore)

Tolmunen et al. studied serotonin transporter (SERT) binding using I-123-nor-beta-CIT SPECT in a patient with bipolar disorder before and after psychotherapy and compared findings in this case with those in patients with major depression and normal controls. They reported for the first time elevated SERT binding in the hypomanic case, which was reversed by non-pharmacological treatment. This is a new and interesting finding that should stimulate further research in this context. The used methods are appropriate and the results are adequately presented and discussed. I would only suggest some minor, discretionary revisions. Maybe it would be helpful to add in the "Data Analysis" section, mean and standard deviations of the ROI-dimensions obtained with the 60% threshold in the two groups and in the index case. In the first paragraph of the "Results" I was confused by the sentence: "The SERT density of the index case was two standard deviations (SD) higher than the mean SERT density of the depressed controls and almost two SD lower (?) than the mean SERT density of the healthy controls". Shouldn’t “…lower...” be replaced by “…higher…”? Was the decrease in HDRS in depressed patients significant? Was the increase in DAT binding in depressed controls significant? If not it might be helpful to add a figure showing DAT binding values before and after treatment, in order to potentially identify different subgroups. Moreover, Figure 2 may be improved if a quantified colour scale is given. In conclusion, the presented case exemplifies nicely the potential of functional neurotransmission imaging to assess the effects of non-pharmacologic treatment in a psychiatric disease.

What next?: Accept after discretionary revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests: