Reviewer's report

Title: Association of HFE common mutations with Parkinsons disease, Alzheimers disease and Mild Cognitive Impairment in a Portuguese cohort

Version: 2 Date: 8 June 2006

Reviewer: Arno G Motulsky

Reviewer's report:

I have looked over the revised paper and the reviews of the two referees of the ms on schizophrenia for BMC Neurology.

The revised ms should indicate that the small numbers in this study make an ultimate assessment of the biologic and genetic significance of the data impossible. The authors should combine all other studies on frequencies of HFE mutations in AD and PD (separately) in a table that shows the statistical significance of HFE mutations in such a combined data set for each disease (AD and PD). Only data that give the frequency of HFE mutations in non-relative controls should be included. This new table could be the beginning of a meta analysis that might give more definitive data of biologic/medical significance.

Ultimate explanation and interpretation of such data should indicate the frequency and extent of iron deposits in the brain of homozygotes for C282Y who have clinically expressed hemochromatosis with increased iron deposits in the liver and other organs.