Reviewer's report

Title: Genetic polymorphisms involved in dopaminergic neurotransmission and risk for Parkinson’s disease in a Japanese population

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Reviewer: Jan O Aasly

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In this paper the relationship of catechol-O-methyltransferase (COMT), monoamine oxidase B (MAOB), dopamine receptor (DR) D2 and DRD4 polymorphisms and PD risk with special attention to the interaction with cigarette smoking were tested in 238 Japanese PD patients and 369 controls. The authors concluded that the COMT rs4680 and MAOB rs1799836 polymorphisms may increase susceptibility to PD.

There are some questions to the authors:
P6: it is unlikely that our hospital controls shared a genetic predisposition with PD. What do the authors mean? Why is it necessarily so?
The mean male proportion was 38%, which is much lower than in most other PD populations. Was this a selected PD population?

There were very few smokers. To my knowledge the rate of smokers in Japan is much higher, was this due to the high rate of females? How did they calculate the p<0.0001 difference between smokers and non-smokers? Which groups were grouped?

In Table 2 the number of controls in the DRD2 column is less than 300, why?
In Table 3 the number of controls in the MAOB and DRD2 columns are difficult interpret, the authors should comment on that.

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Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests.