Reviewer’s report

Title: Tics as an initial manifestation of juvenile Huntington's disease: Case Report and Literature Review

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Reviewer: Raja Mehanna

Reviewer’s report:

I have reviewed the manuscript entitled "Tics as an initial manifestation of juvenile Huntington's disease: case report and literature review".

This case describes a boy developing motor and phonic tics around age 9, then cervical dystonia around age 12. When presenting to clinic at age 17, he had symptoms of ADHD and obsessive-compulsive disorder. Overall, except for the cervical dystonia, this would be a textbook presentation of a Tourette's syndrome. However, and for unclear reasons, the authors decided to perform EEG, EMG and genetic testing for Huntington's disease (HD) without any suspicion reported on history. The HD test came back positive for 49 CAG repeats. The authors conclude on the "necessity of testing for the HD mutation in young patients with tics even without family history [of HD]".

I feel this conclusion is very excessive and certainly not cost effective. Considering the frequency of Tourette's syndrome and the relative paucity of Huntington's disease, I am more inclined to label the diagnosis of HD in this patient as incidental. In hindsight, the epileptiform discharge detected on EEG and the cervical dystonia might be abnormalities related to HD. However, it is hard to link the Tourettism in this patient to HD.

Previous cases of tics in HD patients were of adult onset tics, which would then be an exclusionary diagnosis for Tourette's (which onset has to be before age 21), and usually involved cognitive decline, chorea or other symptoms suggestive of Huntington's disease. In addition, with such a low CAG repeat, one would expect a much later onset of HD symptoms, although exceptions to the rule are always possible.

Finally, the argument that both HD and tics are somewhat associated to a dopaminergic system dysfunction is not enough to make the case for an association between the two syndromes. Indeed, many movement disorders are associated with dopamine dysfunction and yet are not seen with tics.

Most importantly, the authors do not mention investigating the family for subtle tics, ADHD or OCD trait. In practice, many parents deny any Tourettism in the family, but, once probed more specifically, admit to some ADHD, OCD, or mild "sniffing and blinking" in one or more relatives. Presence of such symptoms in family history, combined with the absence of any CAG repeat expansion in the parents, would clearly points towards a coincidental coexistence of Tourette's syndrome and HD, rather than Tourettism caused by HD.
In addition, I think the subtitle "conclusion" is in the wrong place and the manuscript, and I would strongly suggest English editing services.

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

Unable to assess

**Does the work include the necessary controls?**
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Unable to assess

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No

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Not relevant to this manuscript

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Not suitable for publication unless extensively edited

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