Reviewer's report

Title: Tardive Dyskinesia in an Adolescent Male Abusing Quetiapine via Insufflation: A Case Study

Version: 2 Date: 20 August 2013

Reviewer: Joseph M Pierre

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Major Compulsory Revisions

1. The authors should drop the term “tardive dyskinesia” from the title and the body/discussion of the report, as that diagnosis is far from established. Instead, the simple term “dyskinesia” should be used. Much of the lengthy and unnecessary discussion about mechanisms of TD can therefore be omitted as well.

The authors describe “eye-blinking,” “lip-flickering,” and “twitching” and “flickering” of the eyelids as well as episodes of myoclonus in the extremities. Such symptoms could indeed reflect tardive dyskinesia, but might as readily reflect other movement disorders such as myoclonus proper as has been previously reported with QTP use and overdose (see Velayudhan 2005; Strachan 2006; Aggarwal 2008). The use of “tardive” here is also misleading because the authors associate the time-limited dyskinesia with acute QTP insufflation over two days. If the intent is to link the dyskinesias specifically with insufflation, then the dyskinesia shouldn’t be described as tardive.

If, on the other hand, the authors mean to associate the dyskinesia with the patient’s longer term use of low-dose oral QTP for several months, then this is just another case of TD with QTP (in which case Walsh RA 2011 should be added to citations) and the onset with insufflation is less pertinent.

Given the choice, I would recommend hypothesizing an association between inhaled QTP abuse and acute myoclonus/dyskinesia (see #4 below), while noting the potential for cumulative risk given recent oral use.

2. In a similar fashion, I would be more careful about using “serotonin syndrome” in the case presentation. Both serotonin syndrome and tardive dyskinesia seem to be haphazard diagnoses put forth by the managing clinical team without good evidence of support. Likewise, IV diphenhydramine is not an evidence based treatment for TD, especially in a patient presenting with tachycardia.

3. The case’s major limitation is the lack of a urine toxicology screen or discussion of other drugs (not detected by routine testing) that might be contributory. Given the history of abuse, it seems likely that another agent might be responsible for the patient’s presentation.
4. The authors should clarify what they mean by insufflation. Do they mean inhaling powdered QTP through the mouth into the lungs? Or do they mean snorting into nasal mucosa? The latter is by far the more common route of abuse for QTP and should be described as such (or as nasal insufflation) to be precise. This is important because of the possibility that the route of administration was responsible for much greater acute brain levels of drug that might be responsible for the dyskinesias/myoclonus.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests