

# Psychopharmacology for the Clinician

## Psychopharmacologie pratique

To submit questions for this regular feature, please send them to the Journal of Psychiatry & Neuroscience / Revue de psychiatrie & de neuroscience, Canadian Medical Association, 1867 Alta Vista Dr., Ottawa ON K1G 3Y6, Canada; fax 613 729-9545; [jpn.office@sympatico.ca](mailto:jpn.office@sympatico.ca). Please include details of any relevant case and your name, address, telephone and fax numbers as well as your email address.

### Tardive dystonia and its treatment

A 45-year-old man had his first manic episode at the age of 28 and has had numerous episodes of mania and depression since; the manic episodes have been very disruptive, requiring ECT and antipsychotics. Lithium carbonate was given as a prophylactic mood stabilizer. About 10 years after illness onset, he developed dystonia (torticollis) affecting the left sternocleidomastoid and platysma muscles. Dystonia would disappear during the manic phase, only to reappear when the manic symptoms abated, with or without antipsychotic dose reduction. He has been given botulinum toxin (injectable), tetrabenazine and trihexyphenidyl to control the dystonia, without success. For the last 3 years, he has been treated with atypical antipsychotics. He is now receiving olanzapine and sodium valproate. **How can his dystonia be controlled?**

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**Diagnostic considerations:** When a patient treated with psychotropic medications develops abnormal, involuntary movements, the most important initial step is to consider the differential diagnosis. Although the emergence of dystonia or dyskinesia in a patient with psychiatric illness suggests a medication-related side effect, typically secondary to antipsychotic agents, it may also reflect the presence of an underlying disorder that is causing both the abnormal movements and the psychiatric symptoms.

Diagnoses we have identified in psychiatric patients who develop "tardive" movement disorders include Huntington's disease, Parkinson's disease, Wilson's disease, mitochondrial gene mutation, late-onset Tay Sachs disease, adrenoleukodystrophy, meta-

chromatic leukodystrophy, multiple sclerosis, AIDS and drug abuse, among many others. Certain of these disorders are treatable and, in other cases, correct diagnosis will have important implications for treatment.

Another diagnostic consideration in this case might be basal ganglia damage arising from an unrecognized or forgotten attempted suicide by either hanging or carbon monoxide poisoning, both of which can produce hypoxic lesions of the striatum and globus pallidus.

Thus, the clinical situation described requires a reconsideration of the differential diagnosis. In our opinion, this should begin with a detailed review of the individual and family history, followed by careful physical and neurological examinations and cranial magnetic resonance imaging with attention to basal ganglia structures.

**Treatment issues:** The first principle of treatment for tardive dystonia is to reduce or eliminate as many causative or exacerbating factors as is clinically possible.

All atypical antipsychotic agents (e.g., risperidone, olanzapine, quetiapine) have been associated with the development of abnormal movements. Although clozapine is typically associated with improvement in dyskinesia or dystonia caused by other psychotropic drugs, cases of movement disorders occurring during abrupt withdrawal have been reported.

All movement disorders can be exacerbated by alcohol, substance abuse, stress, agitation, lithium, fatigue and even circadian factors. Patient education about these issues is, therefore, an important part of treatment.

Depression seems to worsen, and mania improves, the severity of dystonia and dyskinesia. One would, therefore, like to treat depressive symptoms if possible. Since selective serotonin

reuptake inhibitor type medications can themselves induce extrapyramidal symptoms, it would be prudent to try to use other strategies, both pharmacological and non-pharmacological, in treating the depression.

The treatment of psychotic symptoms in tardive dystonia is a difficult problem. The literature strongly suggests that clozapine is the most effective and appropriate antipsychotic agent for patients with a significant movement disorder. After consideration of other neuropsychiatric diagnoses, this would be our recommendation. Anticholinergics, baclofen and dopamine-depleting agents such as tetrabenazine have all been used to treat dystonia but are not consistently or predictably helpful.

For cases that fail to respond to pharmacological manipulation, botulinum toxin injections are an important therapeutic option. In a large series of 303 patients with medically refractory torticollis, only 6% failed to improve after repeated treatments. Even if a patient does not respond to an initial injection of Botox, a second or even third treatment should be tried. Those refractory to Botox type A should be treated with Botox type B.

Should all else fail, stereotactic brain surgery typically involving the pallidum, thalamus or subthalamic nucleus should be considered. Although selective peripheral denervation is generally ineffective for patients who fail to respond to Botox, deep brain stimulation is showing considerable promise for dystonia that is refractory to other treatment measures.

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Competing interests: None declared.

**The information in this column is not intended as a definitive treatment strategy but as a suggested approach for clinicians treating patients with similar histories. Individual cases may vary and should be evaluated carefully before treatment is provided.**