A Case of Dramatic Improvement of Severe Tardive Dyskinesia After Switch to Aripiprazole

To the Editor: Although rarely severe, the iatrogenic movement disorder tardive dyskinesia (TD) can be debilitating and functionally impairing.[1] There are many reports describing overall improvement of TD after switching to treatment with aripiprazole[2–6]; we report a case of a patient whose severe and debilitating TD improved dramatically after treatment with aripiprazole.

Case report. Mr A, a 35-year-old single Hispanic man with *DSM-IV* schizophrenia, was referred to our clinic in early 2009 for a clozapine trial for severe TD thought to be due to treatment with antipsychotic medications, including risperidone, quetiapine, and haloperidol, since age 17 years. The patient's mother noted he had had involuntary movements since his 20s that became more severe 3 years prior to his being seen in our clinic. At the time of presentation, he was taking risperidone 4 mg/d, benztropine 2 mg twice daily, and alprazolam 1 mg/d. The benztropine had been started a few months prior for dystonic features. The patient was thin with incessant, severe choreiform movements of his face, neck, trunk, limbs, and respiratory muscles. He had extreme difficulty walking and often lost his balance; he frequently had to crawl to get around. Because of his uncontrollable movements, he often hit his head against the wall while using it for balance when trying to walk. He was unable to sit in a chair and watched television lying on the floor. Breathing was difficult because of diaphragmatic involvement. His movements were of such large amplitude that he stopped going outside due to concerned passersby frequently calling for emergency assistance.

Brain magnetic resonance imaging in February 2009 showed no clinically significant abnormalities. Treatment with clozapine and quetiapine were attempted, but failed due to the patient's difficulties adhering to respective titration schedules. A trial of aripiprazole 5 mg/d was initiated in July 2009; his Abnormal Involuntary Movement Scale (AIMS)[7] score prior to initiation (while on quetiapine 100 mg/d) was 21. The AIMS is a 12-item anchored scale administered by clinicians to detect and follow tardive dyskinesia in patients taking antipsychotic medications. Seven symptom items assess orofacial, extremity, and truncal movements. Since each item is rated from 0 to 4 (none to severe), a total severity score for abnormal movements ranging from 0 to 28 can be assigned and followed longitudinally. After 1 month, his movements were less severe and his AIMS score was 18. The aripiprazole dose was increased to 10 mg/d in October 2009, resulting in marked improvement in movements. By February 2010, his TD was even less pronounced. He was able to walk small distances without banging his head and so did not resort to crawling. He could sit in a chair to watch television and took an airplane flight to visit family in Honduras. His AIMS score in May 2010 was 14. Eighteen months into treatment, he remains significantly less dyskinetic and his psychotic symptoms are under good control. His current AIMS score is 8.

Although there are at least 12 case reports documenting improvement in TD after a switch from an antipsychotic to aripiprazole,[2–6] this case illustrates the marked improvement in even the most severe case of TD, as evidenced by the marked improvement in AIMS score. While not completely free of abnormal movements, the patient regained function and quality of life.

The mechanism of TD is poorly understood. It is thought that prolonged treatment with antipsychotics leads to chronic blockade of dopamine D_2 receptors in the striatum, potentially resulting in both dopamine hypersensitivity and oxidative stress and neuronal damage.[8]

Aripiprazole has a unique receptor profile compared to all other antipsychotics. It is a partial agonist at the D_2 and 5-HT_{1A} receptors and an antagonist at the 5-HT_2 receptor.[9,10] It is conceivable that, due to these receptor binding properties, aripiprazole may prevent and even reverse the dyskinetic movements seen with antipsychotic treatment. A trial of aripiprazole can be considered for patients with severe TD if other approaches (eg, a clozapine trial) have failed.

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