Letter to the Editor

A Case of Ropinirole-Induced Psychosis

To the Editor: Ropinirole, a dopamine receptor agonist, has a high affinity for dopamine D_2 receptors and shows highest affinity for the D_3 receptor subtype.¹ Studies indicate that ropinirole also has antidepressant properties in Parkinson's disease and treatment-resistant depression.²

However, some case reports have documented that ropinirole can induce mania³ and psychosis.⁴ In a recently published study⁵ of 95 subjects treated with ropinirole for Parkinson's disease or restless legs syndrome, 13 developed psychotic features that required therapeutic intervention with either the use of an antipsychotic or dose adjustment of ropinirole. Although ropinirole has been available in India for some time now, there is no report of psychiatric symptoms associated with its use.

We present a case of a patient with bipolar disorder who developed psychotic symptoms without accompanying affective symptoms while receiving ropinirole, which resolved with stoppage of ropinirole.

Case report. Ms A, a 62-year-old woman, was diagnosed with bipolar affective disorder (per DSM-IV-TR) for the previous 18 years and was on lithium carbonate treatment for the same, with breakthrough relapses that were managed with increase in dose of lithium and addition of antipsychotics for short durations. A year prior to presentation to us in December 2009, while on lithium treatment, she had developed loose motion, coarse tremors of both hands, slowness of movement, stooped posture, increased salivation, and pill-rolling movement of hands. Initially, she was seen by a neurologist, was diagnosed to have parkinsonism, and was started on tablet ropinirole 5 mg/d. Later, investigations found high serum lithium levels, following which, lithium was stopped and sodium valproate was started and increased to 1,500 mg/d. With the stoppage of lithium, tremors of hands decreased, and there was marked improvement in the patient's posture.

While on valproate 1,500 mg/d and ropinirole 5 mg/d, Ms A developed delusion of persecution, elementary auditory hallucination, and decreased sleep, without accompanying symptoms of mania or depression. After her symptoms continued for about 2 weeks, she was seen by a psychiatrist, who added quetiapine up to 100 mg/d, but her symptoms kept on worsening and continued for a period of 2 months.

When she was brought to our center in December 2009, she was receiving valproate 1,500 mg/d, quetiapine 75 mg/d, and ropinirole 5 mg/d. On mental status examination, she was ill kempt, was speaking irrelevantly, and had blunted affect, persecutory delusions, and elementary delusions with preserved cognitive functions. In view of the temporal correlation of starting ropinirole and psychotic symptoms in the absence of core manic or depressive features, ropinirole-induced psychosis was suspected and ropinirole was stopped. Within 2 weeks of stopping ropinirole, all of the above symptoms subsided without any change in the dose of valproate 1,500 mg/d and with increase in the dose of tablet quetiapine to 100 mg/d. The patient has been euthymic for the last 2 months. Ropinirole, a nonergot D_2/D_3 dopamine agonist, has greatest affinity for the D_3 receptors. Theoretically it is considered that, because of greater affinity for the D_3 receptor, use of ropinirole may not lead to excessive stimulation of D_2 receptors in the mesolimbic area and hence would not lead to psychosis. Studies have reported an incidence of 5% to 17% for development of hallucinations in subjects receiving ropinirole for Parkinson's disease.^{5–7}

In the index case, the patient developed psychotic symptoms without associated affective symptoms while on treatment with ropinirole and valproate, symptoms that had not responded to quetiapine 100 mg/d in the past, but responded to stoppage of ropinirole. This suggests that the psychosis was related to ropinirole. In the index patient, the psychotic symptoms included paranoid features, a finding that is in line with the previous reports in the literature of psychotic symptoms with ropinirole. Our patient's score on the Naranjo Adverse Reaction Scale⁸ was 6, indicating a probable association between psychosis and ropinirole.

Our case adds to the scant literature about the association of ropinirole and psychosis and highlights the fact that, like all other dopaminergic agents, ropinirole should be used with caution in patients with affective and psychotic symptoms.

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