Quetiapine-Induced Acute-Onset Catatonia

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Catatonia is a psychomotor syndrome that is present in about 10% of patients with psychiatric conditions.[1] In this report, we describe a rare occurrence of catatonia emerging following the administration of quetiapine and describe a possible mechanism by which quetiapine-induced catatonia may have arisen.[2]

Case Report

Mr A was a 31-year-old man who presented to the emergency department with mutism, negativism, and immobility. He had previously experienced 3 episodes of hypomania, which had been undiagnosed. Two weeks prior to the current presentation, he experienced generalized anxiety accompanied by sleep disturbance in relation to his work as a volunteer firefighter and recent death of a colleague. He consulted his general practitioner and was prescribed quetiapine 25 mg at night (first exposure to antipsychotic). Following the first dose, he experienced psychomotor slowing and reduced speech. Following the second dose, his symptoms progressed to significant immobility and mutism. On initial physical assessment, he was afebrile and autonomically stable with a normal creatinine kinase level. He was subsequently referred to the psychiatry team and was diagnosed with quetiapine-induced catatonia. His Bush-Francis Catatonia Rating Scale[3] score was 24 with rigidity, immobility, mutism, stereotypy with repetitive blinking, and ambitendency.

Quetiapine was stopped, and he was started on regular lorazepam (1 mg, 3 times/d). He experienced an immediate response to the first dose of lorazepam, with significant reduction in catatonia and increased mobility and speech. He was titrated off lorazepam over the following 5 days and was started on valproate 500 mg at night for his underlying bipolar affective disorder. At discharge following a 5-day admission, he had no residual anxiety, depressive, or catatonic symptoms.

Discussion

In this patient, catatonic symptoms emerged shortly after starting quetiapine and quickly resolved following its cessation. The Naranjo Adverse Drug Reaction Probability Scale[4] score was 8 for this patient, indicating likely quetiapine-induced catatonia. Quetiapine-induced catatonia is rare, with only 1 case report previously identified in the literature.[2]

The dominant hypothesis to explain catatonia has focused on reduced γ-aminobutyric acid (GABA)–A activity leading to catatonic symptoms given that benzodiazepines are the primary treatment for catatonia.[5] Dopaminergic mechanisms are also implicated given the induction of catatonia with D_2 antagonists.[6] This is more commonly associated with typical antipsychotic medications compared with atypical antipsychotic medications.[7] Clozapine is the prototypical atypical antipsychotic medication, possessing a complex receptor profile including being a D_2 receptor antagonist, with loose binding to the D_2 receptor, and a 5-HT_2 receptor antagonist.[8] The loose binding of clozapine to the D_2 receptor makes it much less likely to induce catatonia compared with other antipsychotic medications.[8] Clozapine is also postulated to be an anticatatonic agent, which may relate to its possible GABAergic properties.[5,9] Quetiapine was synthesized as a clozapine mimetic.[10] However, quetiapine may not share clozapine's GABAergic properties, implying that quetiapine is able to induce catatonia through the dopaminergic pathways but may be unable to moderate it through GABAergic pathways like clozapine.[8]

Quetiapine-induced catatonia is a rare occurrence, which may reflect its loose binding to the D_2 receptor, a property it shares with clozapine. However, it may be more likely to lead to catatonia compared with clozapine, as it may not share clozapine's postulated GABAergic properties. In addition, patients with an underlying clinical condition like bipolar affective disorder may be more vulnerable to developing quetiapine-induced catatonia.[11] Clinicians should exercise caution in prescribing quetiapine for patients with no underlying primary psychotic illness and should be alert to the possibility of movement disorder induction.

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