Neuroleptic Malignant Syndrome After Exposure to Asenapine: A Case Report

To the Editor: Neuroleptic malignant syndrome is a serious side effect of antipsychotic medications that occurs in up to 2% of those receiving neuroleptics.[1] The syndrome is characterized by hyperthermia, extreme muscle rigidity that leads to elevated creatinine phosphokinase, autonomic instability, and mental state changes characteristic of a delirium. Asenapine is a newly available second-generation antipsychotic. Described here is a patient who developed a malignant neuroleptic syndrome following exposure to asenapine.[2] We believe it is the first such case described with this agent.

Case report. Mr A, a 23-year-old white man, was administered asenapine 10 mg at bedtime in 2010 for a psychotic state characterized by auditory hallucinations and paranoid ideation. The auditory hallucinations were characterized by multiple voices calling him derogatory names. Prior to initiation of this treatment, the patient had received no medication. The patient was administered 3 subsequent doses without clinical improvement over the next 72 hours. On the third day of treatment, he became confused; his confusion was characterized by disorientation to time and situation that was distinct from his psychotic state. His mother reported that he appeared "feverish" due to excess sweating. He went to a general hospital emergency room, where examination revealed his temperature to be 99.8°F, with elevated blood pressure of 190/87 mm Hg, diaphoresis, elevated creatine kinase (719 IU/L), and leukocytosis characterized by a white blood cell count of $14.6 \times 10^3/mm^3$. A tentative diagnosis of malignant neuroleptic syndrome was made.

Because the patient was psychotic and trying to leave against medical advice, he was sedated with benzodiazepines to such a significant degree that intubation was required and then was admitted to the medical intensive care unit. Hydration, dantrolene, and bromocriptine were administered. His creatine kinase level returned to within normal limits within 36 hours, and he was extubated. After he was transferred to the inpatient psychiatric unit, his psychotic symptoms remained, but he was completely oriented and cooperated with the ward milieu. History revealed that his psychotic symptoms were gradual in onset, and a tentative diagnosis of schizophrenia (per *DSM-IV* criteria) was made.

The above case fits with criteria for neuroleptic malignant syndrome and should remind all clinicians that all antipsychotics, whether first or second generation, have potential for this serious side effect. Clinicians utilizing asenapine must remember this potential side effect that is found in all agents in this class of drug.[3]

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Niku Singh, MD
Thomas N. Wise, MD
thomas.wise@inova.org

Author affiliations: Inova Fairfax Hospital, Virginia Commonweath University School of Medicine, Richmond.
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