A Case of Intentional Asenapine Overdose

To the Editor: Asenapine, marketed as Saphris, is a relatively new psychopharmaceutical agent approved in 2009 for the treatment of acute mania or mixed episodes in the context of bipolar I disorder as well as schizophrenia.[1] Asenapine has a unique receptor profile and has been shown to be effective and well tolerated by patients experiencing an acute manic episode.[2,3] Adverse effects of long-term use are not yet known, but the incidence of cardiovascular disease and diabetes is expected to be substantially lower than with older neuroleptic agents.[4] Here we present the first published case of asenapine overdose of known quantity and route.

Case report. Mr A, a 49-year-old man, presented to the emergency department (ED) after having ingested 74 tablets of asenapine in the ED parking lot several minutes previously. He was currently undergoing a course of electroconvulsive therapy (ECT), having been diagnosed with bipolar disorder with mixed episodes and borderline personality disorder (both according to *DSM-IV-TR* criteria) and was 1 day postdischarge from the inpatient psychiatry unit. The quantity of ingested tablets was confirmed by the patient's mental health outreach worker after examination of packages in the patient's car. Mr A had made previous suicide attempts using ibuprofen and clonazepam in overdose.

Because the ED physician was unfamiliar with asenapine toxicity, the patient was admitted to the intensive care unit (ICU) for observation. Examination in the ED and ICU revealed a drowsy, yet easily rousable man who was unwilling to answer questions. Blood pressure was maintained at 149/88 mm Hg, pulse was 99 bpm, respiratory rate was 19/min, oxygen saturation was 98% on room air. Findings of cardiac, respiratory, and abdominal examinations were unremarkable. Urine drug screen was positive for amphetamines, marijuana, opiates, and benzodiazepines. There was no nausea or vomiting, and activated charcoal was not administered. Electrolytes, troponin I, international normalized ratio, complete blood cell count, and creatinine were all within normal laboratory values. Electrocardiogram showed only normal sinus rhythm. Mr A was determined to be medically stable by the ICU physician, and care was transferred to the psychiatric unit approximately 24 hours later.

This patient's bilateral ECT course was continued for a total of 10 treatments with good therapeutic effect and minimal side effects. He was subsequently discharged and has been followed by the outpatient psychiatry service, has received cognitive-behavioral therapy to address coping skills, and is doing well as of last contact.

Here we present the first documented case of asenapine overdose with a known quantity and route of administration. Six previous cases of asenapine overdose have been noted at doses up to 400 mg, but the exact dose and route were not known.[4] Similar to those cases, no specific adverse drug effects were observed. Notably, the bioavailability of asenapine is less than 2% when administered orally, compared to approximately 35% when given sublingually; this patient did not administer his overdose sublingually.[4] Thus, despite ingesting 740 mg of asenapine, he was exposed to only the equivalent of 4 sublingual doses. Despite the large number of tablets and considerable concern from the ED, asenapine appears to be safe in overdose situations, likely due to its pharmacokinetic profile.

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