

## Quetiapine (Seroquel®) Overdose

Quetiapine is an atypical antipsychotic known more commonly as the brand name Seroquel®. It is widely prescribed for the treatment of schizophrenia and other psychotic disorders. The Maryland Poison Center has been consulted on many overdoses with this drug.

Quetiapine is a dibenzothiazepine derivative and is very rapidly absorbed reaching peak plasma concentrations in 1.5 hours with therapeutic doses. Elimination half-life is 3-6 hours but may be prolonged in overdoses. It is 83% protein bound and extensively metabolized in the liver via the cytochrome P450 3A4 isoenzyme. Decreased quetiapine clearance and potentially toxic serum concentrations can result from drug interactions with cytochrome P450 enzyme inhibitors such as cimetidine. Currently, quetiapine serum levels are not easily obtainable.

Quetiapine overdose information is limited. Toxic and fatal doses have not been established; however, patients have survived as much as 20,000 mg of quetiapine and fatalities are not common. The cases that have been reported in the literature and to the Maryland Poison Center have developed primarily central nervous system and cardiovascular effects, much like those seen with cyclic antidepressant overdoses. Lethargy is the most common CNS effect with slurred speech, ataxia, dizziness, dry mouth and coma also being reported. Agitation and seizures are rare occurrences. Orthostatic hypotension, reflex tachycardia and syncope occur due to alpha-1-receptor blockade. ECG abnormalities, including QTc and QRS prolongation, have been reported. Massive overdoses have also resulted in respiratory depression, asymptomatic elevations in serum transaminases and bilirubin, priapism, and hypokalemia. Although not reported in overdoses, patients should be observed for neuroleptic malignant syndrome (NMS) due to reports of NMS in patients during quetiapine clinical trials.

Treatment consists of activated charcoal administration and supportive care. Call the Maryland Poison Center for assistance in the assessment and treatment of quetiapine overdoses.

*Lisa Booze, PharmD, CSPI*

### ***DID YOU KNOW THAT...* There were 32,422 atypical antipsychotic exposures reported to U.S. poison centers in 2003?**

Most of these exposures were in adults (70.2%), and 24,662 (76.1%) were treated in a health care facility. More than 1,800 of these patients developed major effects such as coma and cardiac conduction abnormalities. There were 72 deaths, 11 of which were attributed to quetiapine overdose.



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