



Poison HOTLINE

1-800-222-1222

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Did you know

A common measure of acute toxicity is the lethal dose (LD₅₀) or lethal concentration (LC₅₀) that results in death (from a single or limited exposure) of 50 percent of those exposed. LD₅₀ is generally expressed as the dose in milligrams (mg) of chemical per kilogram (kg) of body weight. LC₅₀ is often expressed as mg of chemical per volume (e.g., liter) of air or water exposed to.

Chemicals are considered highly toxic when the LD₅₀ or LC₅₀ is small and considered practically non-toxic when the LD₅₀ or LC₅₀ is very large.

As a measure of toxicity in an acute overdose, LD₅₀ is unreliable as the results may vary greatly. LD₅₀ is not the lethal dose of all subjects. Some individuals may die with smaller doses, while others survive doses far higher than the LD₅₀.

Quetiapine (Seroquel®)

Quetiapine is an atypical antipsychotic drug that is used to treat schizophrenia and bipolar disorders. It is referred to as an atypical antipsychotic because of its lesser propensity to cause extrapyramidal effects. It has high affinity for serotonergic type 2 receptors and a moderate affinity for dopamine type 2 receptors.

Seroquel is completely and rapidly absorbed after oral administration and undergoes significant first-pass hepatic metabolism. It has a large volume of distribution, is highly protein bound and accumulates in the brain. Plasma concentrations with therapeutic dosing are quite low. Following oral administration, peak plasma concentrations of quetiapine are reached in 1.5 hours for regular release tablets and in 6 hours for extended release. It is metabolized in the liver via the cytochrome P450 enzymes CYP3A4 and CYP2D6. Other medications that inhibit or stimulate the activity of these two cytochrome P450 enzymes may increase or decrease serum quetiapine levels.

QUETIAPINE OVERDOSE

Signs and Symptoms

Mild to moderate quetiapine overdoses can show the anticholinergic symptoms of dry mouth, constipation, somnolence, dizziness, and mild sinus tachycardia. Severe quetiapine poisoning can result in significant CNS depression, sinus tachycardia, and urinary retention. Mild hypotension, QTc prolongation, elevated liver enzymes, seizures and myoclonic jerks may also be observed. Respiratory depression frequently occurs with massive overdoses.

Treatment

Symptomatic and supportive care is the mainstay of treatment for quetiapine overdoses. Monitor vital signs and mental status. Hypotension will usually respond to fluid resuscitation. Replete K⁺, Ca⁺⁺ and Mg⁺⁺ for QTc prolongation. Monitor creatine phosphokinase in patients with prolonged CNS depression, seizures or myoclonus. Quetiapine plasma levels are not readily available nor clinically useful in treating overdose. In large overdoses, quetiapine elimination may be prolonged due to its ongoing absorption, the anticholinergic effect, and its large volume of distribution.

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Help
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