

Lamotrigine overdose produces CNS depression. Overdose can be complicated by seizures, arrhythmias and cardiovascular collapse.

<p>Toxicity</p> <p><i>Toxic dose is poorly defined. Ingestion >20 mg/kg can be associated with moderate toxicity.</i></p> <p><i>Death has been reported at doses of 4 grams.</i></p> <p><i>Lamotrigine blocks sodium and calcium channels, inhibits dopamine, norepinephrine, and serotonin reuptake and is a reversible MAOI.</i></p> <p><u>Clinical features:</u></p> <ul style="list-style-type: none"> - CNS: nystagmus, ataxia, vertigo, sedation, involuntary movements (hemiballismus, choreoathetosis, myoclonus), hyper-reflexia, intractable seizures - CVS: hypotension, ↑QRS (Na⁺ channel blockade), refractory ventricular arrhythmias - Sudden cardiovascular collapse and death can occur with doses > 4 grams - Serotonin toxicity: may occur with co-ingestion of another serotonergic agent/s 	<p>Management: Good supportive care is the mainstay of management</p> <p><u>Decontamination:</u> Activated charcoal 50 g should be given to alert and co-operative patients who have ingested >20 mg/kg up to 2-hours post ingestion, and via a NG tube in all intubated patients.</p> <p><u>Hypotension</u></p> <ul style="list-style-type: none"> - Treat initially with 20-30 mL/kg of crystalloid - Fluid resistant hypotension should initially be managed using a norepinephrine infusion - Further choice of inotrope(s) should be based on echocardiography findings - Consider ECMO in cases with ongoing hypotension despite escalating doses of inotropes <p><u>Seizures</u> - Benzodiazepines: Diazepam 5 mg IV every 5 minutes as necessary</p> <p><u>Ventricular arrhythmias / Na⁺ channel blockade</u></p> <ul style="list-style-type: none"> - Often poorly responsive to NaHCO₃ therefore discuss all cases with a clinical toxicologist - Maintain serum K⁺, Mg²⁺ and Ca²⁺ concentrations at the upper limit of normal range - Avoid beta-blockers and amiodarone <p><u>Serotonin Toxicity</u> – <i>(see separate serotonin toxicity guideline)</i></p> <p><u>Enhanced elimination</u></p> <ul style="list-style-type: none"> - Multi-dose activated charcoal (MDAC) may increase lamotrigine clearance (see MDAC guideline) - Extracorporeal elimination: haemodialysis may increase lamotrigine clearance <p><i>Possible indications: Ingested dose > 4 grams PLUS QRS prolongation or CVS instability, arrhythmias, hypotension poorly responsive to medical Rx, intractable seizures</i></p> <p>Disposition: Discharge pending mental health assessment if asymptomatic at 6 hours post ingestion</p>
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