

Tramadol Overdose

Tramadol (Ultram®, Ultracet®) is a centrally-acting analgesic used in the treatment of moderate to severe pain. It exerts its therapeutic effect via a dual mechanism of action: agonism of mu-opioid receptors and inhibition of serotonin and norepinephrine reuptake. It reaches peak serum concentrations 2 hours after oral administration and its elimination half life is 6 hours. While tramadol is an effective analgesic, it is less potent than other analgesics in its class, e.g. about ten times less potent than codeine. It produces less respiratory depression and constipation in therapeutic doses than other opioids. Although its abuse potential is unclear, tramadol should be used cautiously if at all in patients with a history of addiction to opioid analgesics.

Tramadol overdoses are associated with seizures that can occur up to 10 hours post-ingestion. Although not as common as with other opioids, respiratory depression is seen with overdoses or co-administration with alcohol or other depressants. Other effects seen in overdoses include lethargy, tachycardia, hypertension, miosis, nausea, vomiting, constipation, and abdominal pain.

In the treatment of an overdose, activated charcoal can be administered within 1 hour post-ingestion to prevent absorption. Because of the drug's dual mechanism of action, naloxone will reverse only some of the effects of tramadol, primarily sedation and respiratory depression. Seizures should be treated with intravenous benzodiazepines.

The exact amount of tramadol that must be ingested for toxicity to be seen is not known. There have, however, been cases where ingestions of as little as 500mg of tramadol alone have led to significant symptoms like seizures and respiratory depression. In any potential overdose, the patient should be observed carefully for respiratory depression and seizures. It is important to note that since this drug is a synthetic opioid, it will not show up on a urine drug screen for opiates. Serum concentrations of tramadol can be determined, however, using high-performance liquid chromatographic methods.

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DID YOU KNOW THAT... there is a risk of serotonin syndrome when tramadol is taken with other serotonergic drugs?

Tramadol inhibits serotonin reuptake. When tramadol is taken with other drugs that increase serotonin activity, serotonin syndrome may occur. Serotonin syndrome is characterized by tremor, sweating, fever, tachycardia, tachypnea, agitation and confusion, and is sometimes fatal. Examples of common serotonergic drugs include monoamine oxidase inhibitors, tricyclic antidepressants, and selective serotonin reuptake inhibitors (e.g. citalopram, fluoxetine, and sertraline).



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