Tramadol - General Effects

Tramadol (Ultram, Conzip, Nobligan) is a narcotic analgesic and central nervous system (CNS) depressant.

1. Tramadol is prescribed for the relief of moderate to severe pain.
    a. Tramadol has a half-life of 4.3-8.3 hours.
    b. Tramadol has a general therapeutic range, but experienced effects can vary based on an individual's prescription history.
        i. Therapeutic range refers to the blood concentration expected to achieve the desired therapeutic effects. Due to many factors such as prescription history, dosage, tolerance, drug-drug interactions and use, an individual may exhibit signs of impairment even though blood concentrations fall within the therapeutic range.
    c. Tramadol is equipotent to codeine but has less abuse potential as it causes less respiratory depression.
2. O-desmethyltramadol, an active metabolite of tramadol, has around 2-4 times the efficacy of tramadol.
    a. O-desmethyltramadol has a half-life of 6-11 hours.
3. General effects of narcotic analgesics include but are not limited to: nausea, vomiting, respiratory depression, sedation, and mental clouding/mood swings.
    a. General impairing effects of narcotic analgesics on driving include, but are not limited to: impaired divided attention, poor coordination, cognitive impairment, delayed reaction time, difficulty following direction, and falling asleep at the wheel.
4. The longer an individual uses a drug, the more they can build up a tolerance to its effects. Tolerance occurs when an individual no longer responds to the drug in the way that they initially responded. When an individual gains tolerance to a drug, a higher dose of the drug is necessary to achieve the same level or response initially achieved. As tolerance is gained, it may reduce some of the possible negative effects of a drug.
5. Drug metabolism (alcohol excluded) exhibits first order kinetics, or the elimination of a constant fraction of drug quantity per unit of time, which means that the amount eliminated is proportional to the drug concentration.
6. The use of more than one drug at a time may enhance the effects the drugs would otherwise have on their own, leading to greater impairment.

References

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Template and general factual statements used from Colorado Bureau of Investigation's monograph system. Edits and fact checking performed by Wisconsin State Crime Laboratory prior to publication.

** The interpretive information provided is not exhaustive nor meant to encompass all scenarios where toxicological results are reported. Interpretive information is meant to serve as a general guide for the reader and that for any given case, consultation with a forensic toxicologist is recommended. **

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