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Case Report: Hospitalization of a Healthy Young Man Following Daily Loperamide Use at Near Therapeutic Doses

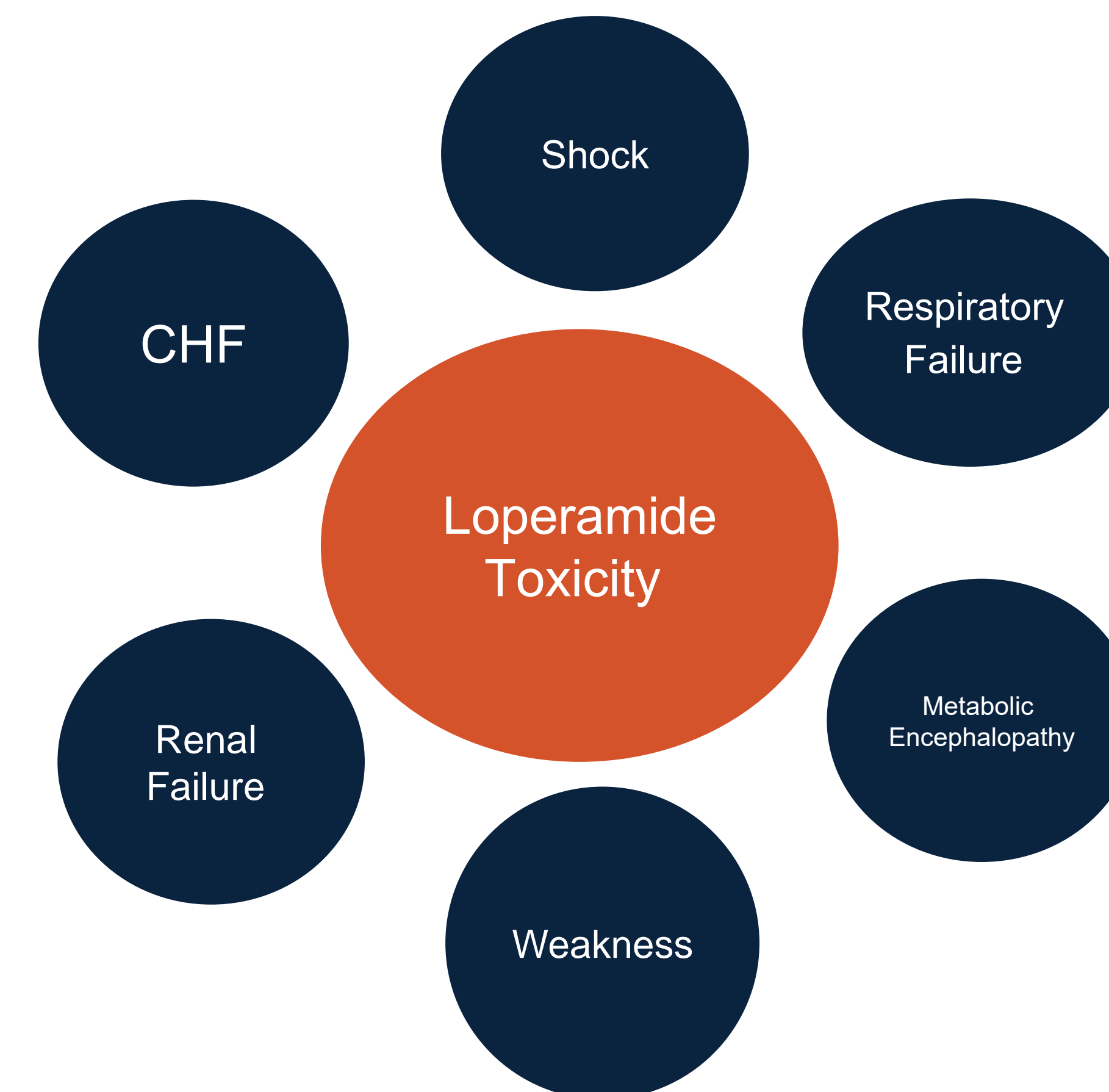
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Background

- Loperamide is an antidiarrheal medication available without a prescription
 - μ -agonist
 - P-glycoprotein substrate
- Concerns regarding overuse
 - Opioid alternative, used in excess (>70 mg) for euphoric effects, or amelioration of opioid withdrawal
 - Heavy prolonged use
- Toxicity is seen as high doses
 - 70-100mg daily
 - Gastrointestinal, Cardiovascular, Respiratory, Neurologic, Renal

Objective

The objective of this report is to highlight the risk of this medication and to raise awareness regarding the toxic effects which were observed in doses lower than typically associated with toxicity.



Case Presentation

An otherwise healthy 24 year old man presented with severe cardiopulmonary symptoms and renal failure. He reported regular diarrhea secondary to heavy alcohol consumption. Loperamide was ingested in ranges from 6-24mg daily. The patient presented with tachypnea, hypercapnia, leukocytosis, and elevations in troponin and lipase. After admission he developed high output congestive heart failure, acute respiratory failure, acute renal failure, deep vein thrombosis and metabolic encephalopathy. During treatment he reported upper extremity weakness which resolved spontaneously. All symptoms resolved spontaneously after cessation of ingestion of loperamide. He was unaware of risks associated with use.

Interventions

The patient was intubated and received vasopressors. Following extubation, an addiction psychiatry consult was ordered. He was transitioned from a chlordiazepoxide taper to diazepam for treatment of alcohol withdrawal. A total of 100mg of diazepam was used after which the detox protocol was completed. Naltrexone and an oral anticoagulant were provided at discharge.

Outcomes

The patients physical symptoms showed gradual resolution over the course of his hospital stay. He evinced signs of withdrawal delirium which responded to diazepam administration. Reported upper extremity weakness resolved spontaneously. The patient discharged home after 14 days.

Discussion

Severe multi-organ dysfunction was observed in a healthy man following heavy use of alcohol and loperamide for therapeutic purposes. The symptoms were consistent with known adverse effects of excessive loperamide use, despite using doses at or near therapeutic range.

Conclusion

Heavy regular use of loperamide is associated with many severe symptoms and is thought to have caused the hospitalization of this otherwise healthy young man. Loperamide toxicity is not isolated only to excessive suprathreshold doses, such as 10x the recommended dose. Patients may be at increased risk for loperamide toxicity even if slightly above therapeutic range. Patients at risk for loperamide toxicity are not limited to intentional overdose or patients using excess loperamide for its euphoric effects.

References

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1. Peter E. Wu, David N. Juurlink, Clinical Review: Loperamide Toxicity, *Annals of Emergency Medicine*, Volume 70, Issue 2, 2017, Pages 245-252, ISSN 0196-0644, <https://doi.org/10.1016/j.annemergmed.2017.04.008>. (<https://www.sciencedirect.com/science/article/pii/S0196064417304249>)