

Introduction

- Xylazine is a medication traditionally used in veterinary medicine that has increasingly appeared in the US illicit drug supply, with the earliest documented case in 2006.
- Xylazine is commonly mixed with other drugs such as ketamine, opioids, methamphetamines, or benzodiazepines.
- When xylazine is used recreationally, it is commonly referred to as ‘tranq’ and found as one component of designer drugs (Friedman et al. 2022).
- Xylazine is an alpha-2 adrenergic agonist sedative that can exacerbate typical opioid adverse effects and currently has no known reversal agent (Vega et al. 2023).
- Through its alpha-2 adrenergic activity, Xylazine can cause vasoconstriction leading to ischemic skin necrosis, hypotension, and CNS depression (Zhu 2023).
- Xylazine related overdoses have been increasing in recent years in the United States and Canada and are likely to continue this trend (Zhu 2023).

Objectives

1. Increase awareness of the increasing relevance of xylazine overdose and the clinical complications.
2. Introduce cerebral ischemic stroke as a new complication of nasally ingested xylazine.
3. Discuss the disadvantages of lack of xylazine testing within a hospital setting.
4. State the need for increased harm reduction measures such as access to xylazine test strips.

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Case Description

- A 16-year-old female with no past medical history was ultimately transferred to a second hospital for escalation of care following a ground level fall, altered mental status, and suspected intoxication.
- **Initial Exam**
 - Vitals: T: 36.6°C HR: 86 BP: 112/56 SpO2: 96%
 - minimal overall arousal
 - minimal right sided facial movement
 - flaccid right arm and leg which do not withdraw to painful stimuli
- **Laboratory Findings**
 - THC, benzodiazepines: Positive
 - EtOH, salicylate, Fentanyl, amphetamines, barbiturates, opiates, cocaine, methadone, oxycodone, propoxyphene, acetaminophen: Negative
 - Ammonia 29
 - WBC 19.2
- **Imaging**
 - Significant narrowing of the M2 branch of the MCA consistent with ischemic stroke
- **Clinical Course**
 - Prior to arrival at this hospital, naloxone was administered which caused patient to become combative and aggressive which led to administrations of midazolam.
 - Upon arrival to the first hospital patient did not have any right sided weakness and CT imaging at this facility showed no acute intracranial abnormality.
 - Once transferred to this facility, imaging revealed left sided ischemic stroke
 - Supportive care was provided to address altered mental status by providing haloperidol, ondansetron, and IV 0.9% saline.
 - Stroke management included enoxaparin as well as appropriate therapies including PT and OT and patient was discharged to a children's rehabilitation facility for further rehabilitation.

Figure 1

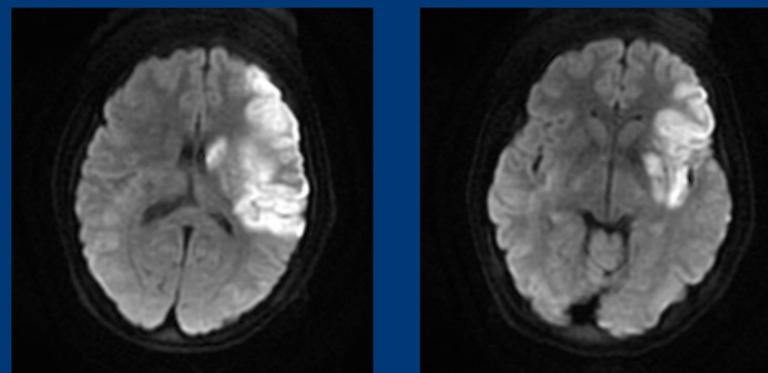


Figure 1; MRI demonstrating left sided middle cerebral artery ischemic stroke

Discussion

- Based on regional patterns and history from the patient's family, the drug used in the patient is presumed to be xylazine, though confirmatory testing for xylazine intoxication is unavailable.
- Due to the increasing prevalence and usage of xylazine in the United States it is imperative that a testing method become available.
- Xylazine is known to cause ischemic skin necrosis but stroke is not a known adverse outcome. Ischemic stroke may be caused due to xylazine's alpha-2 agonist activity causing vasoconstriction and/or vasospasm (Vega et al. 2023).
- Ischemic stroke may be related to nasal route of ingestion contrasted to IV associated ischemic skin necrosis.

Outcomes / Conclusions

- This case report introduces the idea that ischemic stroke may be a possible adverse outcome in patients with xylazine overdose and may be a worthwhile consideration for physicians treating these patients.
- Blood testing for Xylazine ingestion would significantly aid clinicians by providing critical diagnostic support when treating patients who have overdosed on designer drugs, particularly when the ingested contents are unknown.
- Research to identify an effective reversal agent for Xylazine is increasingly critical as this drug becomes more widespread into the United States.

References

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