Institutional Readiness Displayed through an Emerging Toxicology Issue at a Community Teaching Hospital: A Case Report of Suspected Xylazine Withdrawal and Subsequent Management

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Introduction

- Xylazine is an alpha-2 adrenergic agonist that is only approved for veterinary use due to excessive adverse effects in humans during clinical trials.
- Severe respiratory depression along with profound hypotension and bradycardia commonly occur in humans when exposed to xylazine.
- Xylazine has become increasingly prevalent as an adulterant within the illicit drug supply, as it is utilized to enhance or mimic the effect of the illicit substance it is mixed with and to increase bulk weight.
- Currently, xylazine is not screened in routine toxicology panels. One indicator of xylazine use is the appearance of large and sometimes necrotic skin ulcerations coupled with the opioid withdrawal or overdose toxidrome.
- There is no specific antidote approved for xylazine, emphasizing the importance of institutional readiness and prompt recognition of toxicity.
- **We present the case of a patient who arrived at the AtlantiCare Regional Medical Center (ARMC) emergency department exhibiting symptoms consistent with xylazine withdrawal.**

Xylazine Withdrawal Treatment

- The treatment of xylazine withdrawal consists of supportive care with an alpha-2 adrenergic agonist taper. Benzodiazepines are optimal first line agents, in addition to antipsychotics and analgesics. Medication assisted treatment should also be considered for opioid use disorder.
- Patients typically present with anxiety, agitation, rebound hypertension, tachycardia, chest pain, seizures, and/or hyperglycemia.
- For patients with persistent symptoms or severe hypertension and/or tachycardia, a clonidine taper may be used, starting at 0.1 mg orally every 6 to 8 hours. Dexmedetomidine is an alternative agent to clonidine for severe symptoms or when a patient is unable to take medications orally.

Presentation to Hospital

- A 38-year-old male with a past medical history of substance use disorder, hepatitis C, liver cirrhosis, and ascites presented to the emergency de38-year-oldth severe hip and scrotal pain, along with multiple skin ulcerations across his body.
- The patient's initial blood pressure was 126 mmHg systolic and 96 mmHg diastolic with a heart rate of 165 bpm. The patient was also febrile at 102.2 degrees Fahrenheit.
- The patient's initial point-of-care blood glucose was 301, with no history of diabetes mellitus.

Hospital Course

Emergency Department (ED): Day 1
- Initial systolic blood pressure of 129 mmHg and diastolic blood pressure of 79 mmHg with a HR of 101.
- Received one time IV doses of ceftriaxone 2 g and vancomycin 1 g, followed by cefepime 1 g every 8 hours and vancomycin 1.25 g every 8 hours.

General Medicine (GM) Unit: Day 2
- Urine drug screen (UDS) tested positive for fentanyl.
- Initiated lorazepam with methadone and clonidine taper.

GM Unit: Days 4-6
- Underwent a right orchiectomy and the abscess on the right arm was drained.
- Shortly after the incision and drainage, left against medical advice (AMA).

ED Return: Day 6
- Returned with a temperature of 102.2; UDS positive for fentanyl, cocaine, and amphetamines.
- A chest X-ray was performed which indicated pneumonia.

GM Unit: Days 8-9
- Hypertension and tachycardia persisted, and MRI revealed myositis and intramuscular abscesses.
- Final blood cultures were positive for MSSA. Antibiotics were switched to cefazolin 2 g IV every 8 hours for a duration of 42 days.

GM Unit: Day 15
- Patient was discharged to subacute rehabilitation facility.

Discussion

- Although xylazine was not confirmed by a laboratory test, it was highly probable it contributed to the patient's symptoms and necrotic skin infection due the nature of the toxidrome.
- Due to the patient being septic and unable to receive all doses of clonidine, it was unclear how the patient responded to the taper.
- When treating suspected xylazine withdrawal, clinicians should also consider treating for opioid or other toxin withdrawal to reverse the compound effects and offer medication assisted treatment when appropriate.
- As a result of this encounter, ED providers, addiction medicine specialists, and clinical pharmacists collaborated to produce xylazine overdose and withdrawal guidance, which was approved by the P&T Committee.

Conclusion

- **As a result of this encounter, ED providers and pharmacists are aiming to improve screening criteria for xylazine withdrawal in addition to optimizing MAT order sets to prevent patients from leaving AMA and returning to the hospital in worse condition.**
- **This case demonstrates the importance of interdisciplinary collaboration in healthcare and the necessity for preparedness in facing the ever-changing nature of illicit drug use.**

References

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