Case Report

Accidental Self-injection of Xylazine During Work: A Rare Case

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ABSTRACT

Xylazine is an alpha-2agonist often used as a sedative, analgesic and muscle relaxant agent in animals. Xylazine was not accepted by Food and Drug Administration (FDA) for human use due to hazardous side effect such as hypotension, bradycardia, respiratory depression and coma. This is a rare case report of a 64-year-old farmer who accidentally injected himself with Xylazine which was supposed to be given to a fractious cow. He developed altered conscious level, hypotension, bradycardia and respiratory failure requiring mechanical ventilation. Fortunately, he recovered and was discharged home after three days. This occurred due to improper handling of Xylazine without standard operating procedures. Xylazine is regulated for animal use only. Therefore, effects of Xylazine toxicity in human must be emphasized for awareness on proper handling as well as for right management of its poisoning incident in future.

Keywords: accidental injection, occupational hazard, toxicity, xylazine

INTRODUCTION

Xylazine is a type of non-opioid drug synthesized in Germany by Bayer (1962), used in animals as an analgesic, sedative and muscle relaxant[1]. It is a potent α2-adrenergic agonist that acts via stimulation of central α2-receptors. The α2 stimulation reduces the release of dopamine and norepinephrine in the central nervous system causing muscle relaxation, sedation and diminished perception of painful stimuli. Xylazine is not recognized by the FDA for human use[2]. It was examined in humans but rejected due to its common association with severe hypotension, bradycardia and central nervous system depression[3, 4].

According to a literature review by Ruiz et al. (2014), 43 cases of xylazine intoxication were reported in humans. Total of 21 cases were non-fatal scenarios in which most required supportive interventions while 22 cases resulted in fatalities. In most of the cases, xylazine consumption was accidental. Other reasons reported were suicidal, homicidal, recreational purpose or misused to treat insomnia and pain[5]. This case report will give awareness to everyone on proper handling of instrument and management in Malaysia in the future.

CASE PRESENTATION

A 64-year-old Indian farmer decided to sedate a fractious cow. No veterinarian was present at that time. When the farmer was about to give this medication to the cow in a 5-ml syringe with a 21G × 1.5" (0.8 × 40 mm) needle attached, the cow moved and the farmer accidentally injected himself at the flexor aspect of the forearm. He was holding the syringe's barrel instead of the plunger. Without realizing that, he coincidently injected a significant amount of drug to himself. He claimed that he was unable to recall how he jabbed the drug to his forearm. The patient has no any significant past medical or surgical history.

The farmer began to feel lethargic, giddy and weak within the tenth minute of the incident. Subsequently, his co-workers noticed him having unsteady gait. He also responded with slurring words to them. Immediately the farmer was taken to the emergency department.

On arrival he was noted to be drowsy, with slurred speech and abnormal flexion of the limbs, his Glasgow Coma Scale (GCS) was 10. His blood pressure was 164/91 mmHg and pulse rate was 76 beats/min. There was a small superficial puncture wound on his flexor aspect of his forearm. After 15 minutes, he became bradycardic and electrocardiogram showed sinus bradycardia with heart rate of 50 beats/min with no evidence of ischemic changes.

He was intubated in view respiratory depression and low GCS. He was given 2 litres of intravenous 0.9% normal saline over 2 hours. The National Poison Centre was consulted, but was told there is no antidote for xylazine and suggested for symptomatic management. He did not require any medications. He was observed in the Intensive Care Unit, had a good recovery and was extubated after 24 hours. He was well and discharged home after three days.

DISCUSSION

Xylazine is a potentially lethal drug if used in humans. This case report emphasizes the effect of xylazine in human as well as occupational exposure due to wide usage by veterinarian, veterinarian attendant, farmer, animal trainer or associated field. In overdose, central nervous system signs such as disorientation, blurred vision, dizziness, areflexia, numbness, dysarthria, syncopal, hyporeflexia, speech abnormalities or even coma can occur in patients. Besides that they can also develop respiratory impairment extending from laboured breathing to apnoea, cardiac effects such as hypotension, tachycardia, bradycardia, ventricular ectopic and even death[5].

The drug effects may last up to 4 hours in animals. Prolonged effects from 8 to 72 hours were noticed in reported cases of human overdose[6]. Supportive care to maintain cardio-respiratory function is more important in treating xylazine overdose[7]. Supportive treatment includes ventilatory support, fluid management, electrocardiographic (ECG) and blood glucose monitoring. Drugs such as yohimbine, phentolamine, and tolazoline which act as alpha-adrenergic antagonists' were recommended as antidotes for xylazine in animals; however they were not tested in humans[8].

When accidental injections occur, we should always seek medical advice immediately and show the package insert, data sheet or drug label to the physician so that they can take necessary steps to avert negative side effects. To prevent future occurrences of similar incidents, one should consult his/her veterinarian for safe handling and get training prior to administer injectable products. Next, one should properly restrain the animal before giving it the medication. Thirdly, loaded syringes should be handled with care and needles should be properly covered until use. One should never carry loaded syringes in his/her coat or pockets. One should not work alone while handling drugs. Lastly, one should clearly establish management protocols in case of accidents.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests in publishing this case.

CONSENTS

Written informed consent was obtained from the patient to publish the case. A copy of written consent is available for review by the Chief Editor.

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