

Surgical Management of Complications Due to Illicit Drug Xylazine

Jamshed Akhtar ^{1*}

Substance abuse is the excessive use of a drug which may result in detrimental effects to the user. This includes physical as well as psychologic dependence.¹ Use of opioids and other similar drugs is a well-known public health issue. Illicit drugs can result in a number of complications during treatment of medical and surgical diseases.² In surgical practices care of the patients is affected if they are addicted to the substances like alcohol and other illegal substances. In the postoperative period pain management is a common challenge faced by the surgical team. In addition, complications related to anesthesia like respiratory depression are more likely to occur in those addicted to the opioids. This may prolong the hospital stay. The need of intensive care increases and impaired wound healing is also reported.³

The issues related to the illicit drugs are not new in the clinical practices. However, in the contemporary times human race is faced with more threatening issues in context of drug addiction. The surgeons in particular should have a knowledge of a new substance, the xylazine, used for the purpose of addiction because of different complications associated with its use. Xylazine was developed for veterinary use as a tranquilizer. It was invented in 1962 in Germany and was found to be a potent drug. In early this century xylazine was found as a common ingredient mixed with other narcotics available in Puerto Rico. From there it reached United States. It was never licensed to be used in humans. It is a non-opioid drug and frequently mixed with other illicit drugs like cocaine and fentanyl to increase the effect of these drugs. It acts as a sedative in addition to

being analgesic and muscle relaxant. It augments the depressing effects of opioids.⁴ According to Alexander et al data showed that deaths related to the overdose of opioids revealed the presence of xylazine as well.⁵

Xylazine can be used after modification by mouth and may be inhaled or sniffed. However, intravenous injection is the most commonly used method. This drug is often called a zombie drug. Xylazine resembles levamisole which is used as an anti-parasitic drug. It can cause severe skin ulceration that resembles granulomatosis when mixed with cocaine. The ulcers can occur anywhere on the skin in addition to the site of injection. This complication may occur even if drug is inhaled or sniffed. This results due to the vasoconstriction effect by an adrenergic agonist action. It causes ischemia that may progress to the tissue necrosis. Further progression can involve deeper structure like muscles and bones. In some patients this may warrant amputation.⁶

The differential diagnosis of ulcers as a result of local injection of xylazine or after systemic use include a surgical condition, the necrotizing fasciitis. If proper history and examination are not done there is a possibility of providing improper management. Thus surgeons must know the cause of such a condition. The differences between two conditions include no fever or may be low grade in xylazine related wounds with paint hat is proportionate to the extent of the wounds. The patients are usually stable with normal vital signs and laboratory reports. In patients with xylazine wounds drug withdrawal symptoms are also present. On the other hand, patients with necrotizing fasciitis are sick with severe pain and a high grade fever. Some may be hemodynamically unstable. The laboratory investigations reveal changes in the blood cells count. In advanced cases abscess forms and gas may be present in the soft tissues. CT scan may demonstrate the extent of the disease.

The treatment of the xylazine wounds is easy. Basic surgical principles must be followed. Judicious wound debridement and care are required. Extensive and aggressive approach as needed in necrotizing fasciitis

¹ Department of Paediatric Surgery, National Institute of Child Health Karachi

Correspondence:

Dr. Jamshed Akhtar ^{1*}

Visiting Faculty

Department of Paediatric Surgery

National Institute of Child Health Karachi

E mail: jamjim88@yahoo.com

is not warranted. Usually these wound heal early. Some may require dermal substitute and skin grafts. However, as the offending agent, the xylazine, does not enter the local area the outcome for such ulcers is good. Few patients may need amputation because of greater depth of the wound and tissue destruction including bone due to chronic osteomyelitis. However, that is a rare occurrence. The patient centered care also include addressing the addiction habit as well social and psychological support. A multidisciplinary team should work together to achieve these goals. Surgeons must keep themselves updated about the societal behaviors and practices of the population along with new disease-related challenges. The guidelines and consensus statements about xylazine related surgical complications are available which are updated when new knowledge emerges.⁷

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