Presentation of Psychosis Subsequent to Penile Injection of MDMA in a 60-year-old Patient-A Case Report

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Research Article

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Abstract

The street drug Molly, the crystal or powder form of MDMA (3,4-methylenedioxymethylamphetamine) is commonly ingested via oral or pulmonary routes. Intravenous administration of MDMA is rare and here we report a case of penile dorsal vein injection of Molly, development of penile abscess, and subsequent psychotic symptoms in a patient with a history of polysubstance use. A 60-year-old Caucasian male was presented to the psychiatric hospital with a chief complaint of hallucinations and homicidal and suicidal ideation following reported use of MDMA. Three days into his hospitalization, he began to experience sever penile pain and upon interviewing disclosed penile injection of MDMA prior to admission. Examination revealed a 1.5 X 0.7 cm abscess with minimal drainage and surrounding erythema on the body of the penis. The treatment course consisted of three days of intramuscular ceftriaxone and six days of oral Minocycline. In this case report, we discuss the challenges and importance of obtaining a thorough history for patients presenting with IV drug use as well as considering uncommon routes of administration.

Background

Molly is the crystalized form of MDMA (3,4-methylenedioxymethylamphetamine), a chemical with stimulant and hallucinogenic effects present in the street drug Ecstasy. Acutely, MDMA can produce positive effects of empathy, intimacy, euphoria, and heightened self-confidence and sensory perceptions; negative effects include tachycardia, hyperthermia, bruxism, and even psychosis or death [1]. MDMA is commonly administered via the following routes: oral ingestion of capsules or tablets, pulmonary inhalation, suppository absorption, and rarely intravenous (IV) injection [1]. Internationally, it is estimated that there are 13 million people who inject various drugs (PWID) for hallucinogenic effects [2]. Among PWID, skin and soft tissue infections are the most common complication resulting in hospitalization [3]. To our knowledge, research on the complications of intravenous injection of MDMA, specifically into the penile dorsal veins, is limited. Herein, we present a case of penile abscess developing one day after the injection of Molly into the dorsal veins of the penis.

Case Presentation

A 60-year-old Caucasian male with a history of homelessness and polysubstance use presented to the psychiatric hospital with chief complaints of hallucinations as well as homicidal and suicidal ideation following Molly use the previous day, stating, “I knew I would do something crazy”. The patient reported vivid visual hallucinations of strangers standing idly before him as well as thoughts of harming others, passive suicidal thoughts, and risky behavior. Over the past 1.5 months, the patient had been alternatingly injecting and snorting molly every day, experiencing hallucinations with increased use. He reported “cooking it down” prior to injecting it indiscriminately into any vein in various locations throughout his body. Further reported substance use included daily use of a half pack of cigarettes and one quart of hard liquor of unspecified duration. On examination, the patient was somnolent and disheveled, but in no acute distress. Vital signs were stable, and he remained afebrile and normotensive,

with adequate oxygen saturation. Urinalysis was within normal limits and urine drug screen detected no recent drug use.

Three days following admission, the patient began to complain of pain in his penis and upon interview, he disclosed that he did not report injecting MDMA at the time of admission. He revealed that he had noticed increased edema shortly after injecting molly into his penis but did not notice any pain or erythema until the following day. He denied dysuria, chest pain, or shortness of breath. The patient stated that peripheral venous injections were usually painful due to crystallization of the drug upon injection, and hence opted to inject into the dorsal veins of his penis due to “increased blood flow” and reduced pain. He denied a sexual motive for penal injection. A medical consult was placed, and a 1.5 X 0.7 cm abscess with minimal drainage and surrounding erythema secondary to intravenous drug use was identified on the base of the penis (Fig. 1). The treatment course consisted of 1g of intramuscular ceftriaxone daily for three days and 200 mg of oral Minocycline daily for six days. Within two days, the erythema and edema improved, and drainage occurred spontaneously. Also, over the course of hospitalization, the patient’s reported symptoms of depression and psychosis improved. The patient denied hallucinations, suicidal and homicidal ideation upon discharge. The patient was discharged and instructed to complete the full course of minocycline.

Discussion And Conclusions

Intravenous drug use is associated with a wide range of medical complications. Apart from tissue and bloodstream infections, other commonly reported complications include bacterial endocarditis, human immunodeficiency virus (HIV), and viral hepatitis [4]. A wide range of cutaneous manifestations may also develop, ranging from local complications or hypersensitivity reactions to manifestations of broader systemic infections. The cutaneous complication of IV drug use into the dorsal veins of the penis, specifically, is often reported to be necrotizing ulceration [5]. Our patient’s unique presentation of an abscess on the base of the penis following intravenous injection of MDMA demonstrated a unique complication resulting from this uncommon form of drug administration.

Penile abscesses are identified clinically, often aided secondarily by imaging studies such as computed tomography (CT) scans, ultrasound, and magnetic resonance (MR) imaging [6]. Systemic antibiotic therapy along with prompt surgical incision and drainage remain the first-line treatment for penile abscesses, aiming to reduce the spread and severity of infection. With surgical incision and drainage, postoperative complications such as erectile dysfunction and secondary fibrosis leading to penile deviation, can result [7]. In this case, surgical drainage was deferred due to patient preference and spontaneous drainage of the abscess following initiation of ceftriaxone and minocycline. Nonetheless, the possibility of disseminated infection and time-sensitive complications highlight the importance of maintaining a low threshold for suspecting local injection in patients presenting with penile pain, particularly those with a history of polysubstance use. Patients should also be educated about the multitude of risks of injecting into the genitalia as well as the overlooked, long-term consequences of needing surgical treatment.

Existing literature reports commonly cited etiologies for penile abscesses as: trauma, injection, and disseminated infection [7]. Our patient's abscess formed secondary to direct contamination from injections into the dorsal veins. Although the patient reported injecting MDMA into the penis to diminish some of the physical drawbacks experienced with peripheral venous injection, specifically pain, the psychological or sexual motives for penile injections also should be speculated. In this case moreover, the patient had a history of substance-induced psychosis. It is unclear the extent to which the psychoactive or mind-altering properties of MDMA influenced this patient's decision-making.

While patient history and physical exam yielded evidence of the recent MDMA injection, the comprehensive urine drug screen was negative. Of note, the sensitivity of urine drug testing for synthetic or designer amphetamine compounds can vary substantially. MDMA, for instance, can often go undetected and lead to a false negative result, as illustrated in this case [8]. A negative drug screen should be approached with caution, as it does not rule out the possibility of MDMA consumption or ingestion, further underlining the importance of using clinical cues and obtaining a complete history.

Further understanding of MDMA use along with the perceived benefits of injection into the penis would aid in deciphering the rationale behind this route of administration. Additionally, maintaining a high index of suspicion in IV drug-abusing patients is invaluable in helping to prevent the spread of infection and its accompanying complications.

Abbreviations

MDMA: 3,4-methylenedioxymethylamphetamine; PWID: People who inject drugs; HIV: Human immunodeficiency virus; CT: Computed tomography; MR: magnetic resonance

Declarations

i. Funding:

None

ii. Conflicts of interest/Competing interests:

The authors declare no conflict of interest.

iii. Ethics approval:

Not applicable

iv. Consent to participate:

Written, informed consent for study has been obtained and will be available upon reasonable request.

v. Consent for publication:

Written, informed consent for publication has been obtained and will be available upon reasonable request.

vi. Availability of data and material:

The data analyzed and interpreted in this study are not publicly available due to the need to protect the privacy of patients but are available in a de-identified from the corresponding author on reasonable request.

vii. Code availability:

Not applicable

viii. Authors' contributions:

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BM, and TK interviewed and treated the patient. ALR gathered the pertinent data and drafted the manuscript. BM collected the past history and prepared the figure. TK organized and supervised the study and edited the manuscript. All authors read and approved the final manuscript.

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Figures

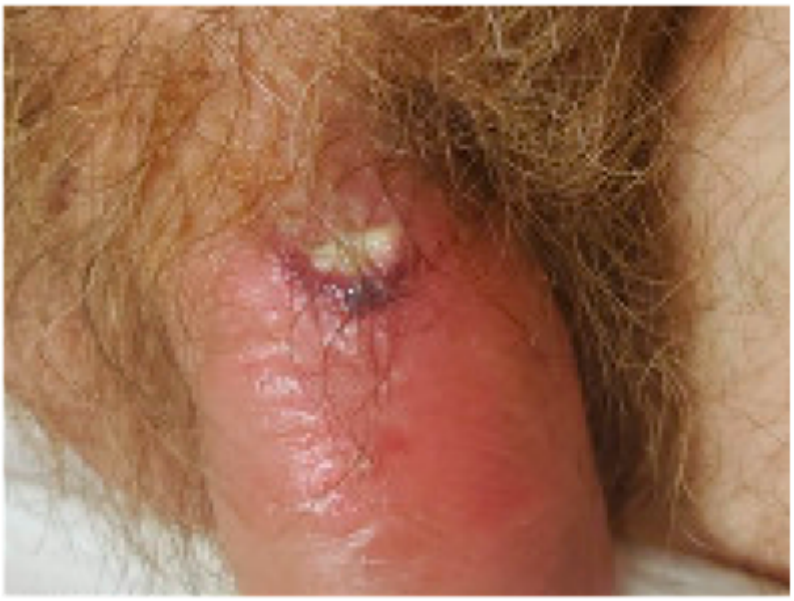

Figure 1

1.5 X 0.7 cm abscess on the base of penis with minimal drainage and surrounding erythema.

Supplementary Files

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- CAREchecklistEnglish2013.pdf