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Penile Amputation in Genital Self-Mutilation (GSM) due to Dextrometrophan Abuse: Case Report

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ABSTRACT

Background: Genital self-mutilation (GSM) is a very rare emergency, usually involving deliberate damage to the genital area. Many factors influence a person to carry out this action, one of which is the use of hallucinogens, such as dextromethorphan. Dextromethorphan is a cough medicine that is easy to find and is often misused. We report a case of a person who mutilated his genitals due to the influence of dextromethorphan.

Case Presentation: A 23-year-old man presented to the hospital with an unusual condition: genital mutilation. The patient reported that he mutilated his genitals using scissors after taking 10 cough tablets containing dextromethorphan. He was diagnosed with penile amputation due to GSM. The patient underwent procedures to close the wound on the amputated part of the penis and penile reconstruction surgery.

Conclusion: GSM is rare and complex, often linked to psychosis, sociocultural factors, or psychological issues. This case involves GSM induced by dextromethorphan abuse, which has hallucinogenic effects. Treatment includes immediate medical care for the injury and long-term psychiatric support. Preservation and replantation of the amputated penis are crucial. A multidisciplinary approach with urologists and psychiatrists is essential for recovery and prevention

Keywords: *dextromethorphan abuse, genital self-mutilation, microsurgery, penile amputation,.*

1. INTRODUCTION

GSM is a form of self-harm defined as the intentional destruction or alteration of body tissue without suicidal intent. Genital mutilation is a rare phenomenon and an emergency in urology. The causes of GSM are generally categorized into three conditions: psychosis (e.g., schizophrenia), transvestitism, and cultural or religious issues.[1-3]

Dextromethorphan is a limited over-the-counter medicine whose function is to suppress coughs due to irritation of the throat and bronchus, in cases of coughs and colds. However, its use is often misused as a hallucinogen if used in large quantities, at least ten pills per day. Dextromethorphan in these doses can cause hallucinogenic effects, especially visual, auditory, and euphoric effects.[4,5]

We report a case report of a person who amputated the genitals due to the influence of the substance dextromethorphan.

2. CASE REPORT

A 23-year-old man came to the hospital with an unusual condition: mutilation of his genitals. The patient stated that he mutilated his genitals using scissors after taking ten cough tablets containing dextromethorphan. After taking the cough medicine, the patient admitted to feeling dizzy and suddenly anxious, leading him to amputate his genitals. He denied any history of auditory or visual hallucinations.

The patient, a fisherman, has been married for two years and has no children. He reported having suicidal thoughts since the beginning of the year, frequently consuming excessive doses of alcohol and cough tablets as sedatives before work. He denied any history of family conflict, diabetes mellitus, hypertension, or urological surgery..

Upon physical examination, the patient's vital signs were within normal limits. Examination of the penis revealed total avulsion of the penile shaft with an open wound and an intact scrotum. The amputated penis measured 10 cm in length (Figure 1). Supporting examinations, such as laboratory tests and X-rays, were within normal limits. The patient was diagnosed with penile amputation due to GSM.

Figure 1. Amputated penis

The penis had been stored at room temperature for 8 hours and then preserved with ice cubes for 2 hours before being taken to the Hasan Sadikin Central General Hospital. The patient then underwent penile reconstruction. The open wound on the amputated penis was cleaned, and sutures were performed to unite the corpus cavernosum and close the wound (Figure 2). On postoperative day 3, the wound showed no signs of pus or necrosis, and the sutures were intact (Figure 3).

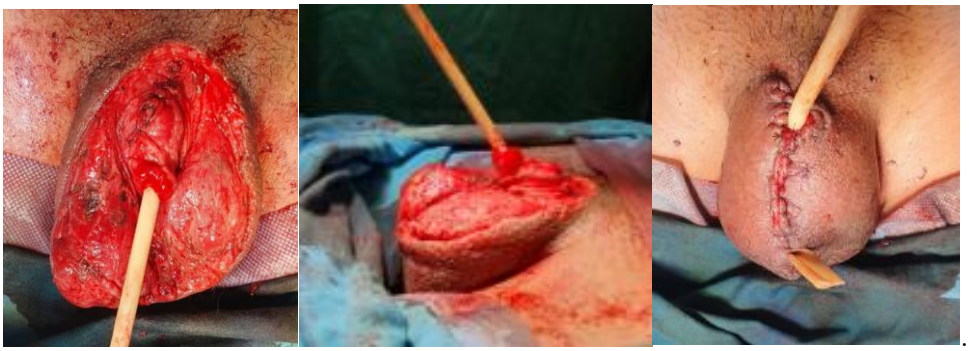

Figure 2. Surgical treatment to close the wound.

Figure 3. Wound condition on postoperative day 3

Figure 4. Wound condition on postoperative day 30

3. DISCUSSION

Injury to the genital organs occurs in 33-66% of all urological trauma, with approximately 40-60% involving the external genitalia. GSM is very rare and is a type of self-mutilation where the individual deliberately injures the genital area. GSM categories vary from superficial cuts to penile amputation. Given the potential for permanent physical and psychological damage associated with GSM, it is crucial for doctors to understand this behavior. In addition to the risk of infection and anatomical changes, GSM is associated with an increased risk of suicide, repeated self-harm, and greater severity of psychopathology.. [6,7]

Since the first case report was published in 1901, numerous reports describing cases of GSM have appeared in psychiatric and urological literature. However, because cases are still limited, the incidence and prevalence of GSM are currently unknown and under-reported, as patients often do not seek treatment due to shame and stigma. Veeder et al. reported a total of 157 cases, consisting of laceration or castration (23.8%), penile amputation (62.9%), castration (37.5%), and combined penile amputation and castration (55.9%).[6,8]

The causes of GSM are varied and generally divided into three categories. First, GSM caused by symptoms of psychosis. Attempts in the literature to understand why GSM occurs fall into three explanations. First, the diagnostic model explains male genital mutilation as caused by psychosis. Men who intentionally mutilate or remove their genitals usually tend to be psychotic at the time of the act. Second, the sociocultural model explains GSM as a need or desire to occupy a social role, particularly for women, as a form of obedience to religion. This action is highly influenced by culture and does not require psychiatric treatment. Third, psychological models explain GSM in relation to unconscious forces such as anxiety, especially related to sexual role ambivalence. The cause of GSM can be due to one or multiple factors.[9,10]

However, causes alone do not explain the motivation behind a man mutilating his genitals. Generally, a man can become psychotic when committing this act, typically under one of three conditions: (1) a young man with acute psychotic symptoms, (2) an elderly man with psychotic depression and somatic symptoms, and (3) a man with alcohol intoxication. In non-psychotic conditions, men may commit the act due to (1) venting by torturing themselves or (2) being transsexual men who want to carry out transsexual surgery.[9,10]

In this case, the patient had risk factors for mutilating his genitals due to suicidal thoughts. This encouraged other negative behaviors leading to psychotic behavior, such as consuming cough medicine containing dextromethorphan. This drug triggered increased feelings of anxiety and suicidal thoughts, manifesting in the amputation of the genitals.[11]

Dextromethorphan has long been used as an over-the-counter cough suppressant available in various formulations. The exact mechanism by which this drug suppresses coughing is still unclear. Dextromethorphan works as an agonist at the Sigma-1 receptor and acts as an antitussive equivalent to codeine but without codeine's analgesic effects or side effects.[12]

Because it is freely sold and easy to use, dextromethorphan is often abused, especially by teenagers, since its abuse is more socially acceptable than alcohol abuse and has fewer side effects. According to a 2018 survey by the National Narcotics Agency (BNN) in Indonesia, dextromethorphan abuse is very high: 5.9% among 15-20-year-olds, 2% among 21-30-year-olds, and 0.4% among 31-40-year-olds. Abuse was highest among students, reaching 9.7% in 2011. [4,12]

Consuming dextromethorphan can cause several psychotropic effects due to the accumulation of the active metabolite, dextrorphan. At low doses, patients may experience mild stimulant effects accompanied by hallucinations and delusions. Higher doses can cause dissociative effects, euphoria, ataxia, restlessness, and loss of concentration. At doses above 7 mg/kg, dissociative effects can occur, along with side effects such as nystagmus and mydriasis. Severe side effects include serotonin syndrome, respiratory depression, tachycardia, and hypertension.[12]

The dissociative effects of dextromethorphan can lead to dangerous, irrational, and unpredictable behavior, including violence or suicide resulting from intoxication.[13]

Given the implausibility of GSM, history-taking must involve psychiatric as well as urological evaluation. Psychiatric history, including symptoms of psychosis, mania, or depression, and suicidal thoughts, must be explored. A history of drug or substance abuse is important, as it can trigger psychiatric symptoms. Additionally, psychosocial factors such as sexual preferences, history of sexual relations, or family conflict should be considered. Finally, religious and cultural factors must be taken into account due to their influence.

Regarding trauma, information about the mechanism of injury, time of occurrence, patient subjectivity, presence of acute urinary tract disorders, and history of previous urological surgery is crucial for treatment. Secondary assessment should immediately assess for injury to other organs and avoid complications from unknown trauma.[7,14]

Supporting examinations such as urinalysis should be performed initially. If hematuria or signs of urethral injury are observed, retrograde urethrography or cystoscopy should be performed. Ultrasound, cavernosography, or MRI with contrast may be necessary.[14]

Initial treatment includes resuscitation and preparation for penile replantation surgery. While not typically fatal, many patients do not seek treatment due to psychosis or substance abuse. Massive blood loss may require immediate resuscitation and blood transfusion. After resuscitation, the patient's psychological condition must be stabilized, and sedatives may be administered to psychotic patients.[15]

Preservation of the severed penis should be done whenever possible. It should be rinsed with normal saline, wrapped in saline-soaked gauze, and placed in a tightly sealed sterile bag. The bag should be immersed in an ice cube bath to maintain hypothermia, ensuring that the ice does not directly contact the penile skin. Hypothermia prolongs ischemic time and tissue viability. The duration for which the penis can remain ischemic before replantation is still unknown. Studies suggest a 'golden time' of six hours after amputation for optimal results, though successful replantations have been reported up to 10 hours post-amputation. Under optimal hypothermic conditions, successful replantation can occur up to 16 hours post-amputation, with rescue efforts possible within the first 24 hours.[15–18]

Surgical management includes penile replantation surgery, suturing of the remaining penile stump, or total phallus replacement. Replantation provides the most physiological results but depends on the viability of the penis and the condition of the graft or penile stump at the time of injury. The procedure must be performed in a hospital capable of microsurgery. Reimplantation involves repairing and re-anastomosing the corpora cavernosa and urethra, followed by the dorsal penile artery, vein, and nerve. If re-implantation is not possible, penile stump ligation may be considered as an alternative.[15,19,20]

Damage to the amputated segment or failed replantation indicates total phallic replacement, especially when the penis is not long enough or functional. Phalloplasty can be performed after the patient's condition stabilizes, allowing time to evaluate both physical and mental conditions to prevent repeated actions.[15]

Evaluation of sexual and urinary function is necessary using tools like the International Index of Erectile Function (IIEF), Erection Hardness Score (EHS), and International Prostate Symptom Score (IPSS). Given the disturbed psychological condition, psychiatric management must be provided to reduce anxiety, guilt, and improve family relationships to increase compliance with treatment.[7,15,20]

4. CONCLUSION

Genital self-mutilation (GSM) is a rare and complex phenomenon often driven by psychosis, sociocultural factors, and psychological conditions. This case report highlights GSM triggered by the misuse of dextromethorphan, a common cough suppressant with hallucinogenic properties when abused. Effective management requires immediate medical intervention for physical injuries and long-term psychiatric care to address mental health issues and prevent recurrence. Preservation and replantation of the amputated penis are crucial for optimal recovery. A multidisciplinary approach involving urologists, psychiatrists, and other healthcare professionals is essential to treat GSM patients and ensure both their physical and mental well-being.

5. ETHICAL CLEARANCE

Written informed consent was obtained from the patient.

6. CONFLICT OF INTEREST

There was no conflict of interest to be disclosed.

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