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## CASE REPORT

# Penile Strangulation: A Case Report on Emergency Management in Resource-Limited

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## Abstract

Penile strangulation is a rare but potentially serious urological emergency requiring prompt intervention to prevent severe complications. We report the case of a 30-year-old man with a history of psychiatric disorders who presented to the emergency department with progressive penile swelling and pain after placing a wedding ring around the coronal sulcus. Attempts at removal using lubrication had failed, leading to worsening edema. Due to the unavailability of specialized equipment, a sterilized cutting plier was used under sedation to successfully remove the ring, resulting in complete recovery without urinary or sexual dysfunction after one month of follow-up. This case highlights the critical need for timely and resource-adapted management to preserve penile function and prevent long-term complications.

## Keywords

Penile strangulation, Urological emergency, Constriction injury, Penile edema, Penile ischemia

## Introduction

Penile strangulation is a rare event in urology, with its prognosis largely dependent on the promptness of medical intervention. It most commonly occurs in patients with psychiatric disorders, often in the context of self-harm, or in individuals attempting to enhance erectile function [1]. This condition requires urgent management, as penile function may be at risk.

Strangulation can result from the use of various constricting objects, most frequently metallic rings, nails, or even plastic fasteners.

While numerous cases have been documented in the literature with different surgical approaches, we present the case of a young adult requiring the urgent removal of a constricting ring. This case highlights the challenges of managing such emergencies, particularly in the absence of specialized equipment for removing a metallic ring-in this instance, a wedding ring.

## Case Report

A 30-year-old man with a history of psychiatric disorders, under irregular antipsychotic treatment, presented to the urology emergency department with penile pain persisting for three days. The symptoms were caused by the introduction of a wedding ring around the penis, leading to progressive edema distal to the ring.

The patient reported unsuccessful attempts to remove the ring using soap and oil. He had no history of substance abuse. Clinical examination revealed a wedding ring encircling the coronal sulcus, accompanied by mild edema and congestion of the glans. The patient, who was already circumcised, exhibited a foul odor, desquamation beneath the metal ring, and irritation, though there were no signs of necrosis or skin breakdown due to the strangulation effect (Figure 1). There was no black discoloration or evidence of necrosis of the distal penile shaft, and no signs of a retro-cutaneous fistula. Urinary output was preserved, with no symptoms of dysuria or acute urinary retention (AUR).



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A psychiatric evaluation was conducted to rule out a psychiatric emergency (such as agitation or aggression), and sedation was approved by the anesthesiology team. Several attempts to remove the ring using lidocaine and paraffin oil were unsuccessful. A Foley catheter (CH 16) was inserted, demonstrating a small gap between the ring and the skin, but this was insufficient to allow for manual removal.

One of the main challenges was the unavailability of specialized cutting tools. As a result, a sterilized cutting plier was used under short-term sedation to successfully remove the ring ([Figure 2](#)). No deep tissue damage was observed. Following removal ([Figure 3](#)), immediate penile decompression was achieved.

At the one-month follow-up, the patient exhibited no signs of urinary or sexual dysfunction, and no residual swelling or pain was reported.



**Figure 1:** Wedding ring encircling the coronal sulcus.



**Figure 2:** Use of cutting pliers for ring extraction.



**Figure 3:** Metallic ring (wedding ring).

## Discussion

Penile strangulation is a urological emergency that has long remained underreported, with approximately 70 cases documented since the first published report by Gauthier in 1755 [2]. Although rare, it is a serious condition requiring prompt intervention to prevent severe complications such as necrosis, gangrene, or irreversible penile dysfunction. Various objects can become constricted around the base of the penis, including metallic rings (such as wedding bands, curtain rings, or key rings) and non-metallic objects (such as plastic bottle necks).

This condition most commonly occurs in psychologically unstable patients [3]. The underlying motivation for this voluntary act can vary; it may be a form of self-mutilation [3], [4] autoerotic activity, or an attempt to enhance sexual performance. In some cases, individuals with erectile dysfunction may use constricting devices in an effort to maintain a prolonged penile erection to satisfy their partner.

In 1995, Bhat, et al. Proposed a classification system for penile incarceration, consisting of five grades ranging from mild edema to necrosis [5] ([Table 1](#)).

Our case was classified as **Stage 2**.

In all cases, immediate penile decompression is required. Venous and lymphatic congestion develops first, causing progressive edema that can hinder removal. If untreated, arterial supply may become compromised, leading to ischemia and necrosis [4], [6]. Which can hinder the removal of the constricting ring by either the patient or the urologist.

**Table 1:** Grades of penile strangulation, ranging from edema to necrosis.

Grade	Description
1	Edema of the distal penis.
2	Constriction injury affecting the penile skin and corpus spongiosum without urethral damage. Distal penile edema with decreased sensation.
3	Injury to the skin and urethra without the formation of a urethral fistula. Loss of distal penile sensation.
4	Complete division of the corpus spongiosum leading to a urethral fistula and constriction of the corpus cavernosum, with loss of distal penile sensation.
5	Gangrene, necrosis, or complete amputation of the distal penis.

Treatment must be urgent [7]. The first step involves removing the constricting object, often under local anesthesia or sedation, as in our case. The technique used depends on the rigidity and shape of the ring. Thin and narrow rings are generally easier to cut, typically using cutting pliers, as in our case.

The distal location of the ring at the coronal sulcus facilitated the maneuver, allowing for a secure grip with the cutting pliers. In contrast, removing thick, hard, or wide rings can be more challenging, often requiring deeper sedation and the use of an electric cutting tool [4]. In such cases, it is recommended to drain the stagnant blood in the penis via incision or puncture of the glans, followed by compressive banding using a silk thread to gradually slide off the constricting ring [7], [8].

Currently, five primary techniques exist for managing penile strangulation [9]:

1. The string method
2. Aspiration technique
3. Ring cutting
4. Decompression surgery
5. Microsurgical penile amputation and reimplantation

The prognosis is favorable in most cases if rapid and appropriate intervention is performed. Long-term complications, such as urethral strictures or erectile dysfunction, are rare but possible, particularly in cases of prolonged constriction. Psychological or psychiatric follow-up is often necessary, especially in cases

involving autoerotic behaviors or underlying psychiatric disorders, to prevent recurrence.

## Conclusion

Penile strangulation requires immediate medical attention to maintain organ function. Each situation is assessed on a case-by-case basis, taking into account clinical findings and the conditions for surgery. Treatment approaches are influenced by factors like the type and size of the constricting object, how long the strangulation has lasted, the extent of the injury, the equipment at hand, and the skill of the medical team. The techniques and instruments employed can differ based on the specific circumstances and characteristics of each case. Notably, there have been no reports of erectile dysfunction following the removal of the constriction.

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