

Penile Strangulation due to a Metallic Foreign Body: A Case Report

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Abstract

The application of a penile ring for sexual gratification is an unusual practice with severe consequences. Here we present a case report of thirty years old saint who applied a metallic ring at the root of his penis to avoid erections. He presented to our hospital after forty-eight hours of penile ring application which was removed successfully after detumescence and fasciotomies and had an uneventful recovery.

Keywords: Detumescence; Fasciotomy; Priapism; Strangulation; Gangrene

Introduction

The application of metallic penile ring presenting with strangulation is a rare urology emergency [1]. Metallic objects are usually put on the penis by the patient himself or his female partner to get a longer sexual erection in adults [2]. Different methods of removing metallic objects have been described in the literature, mostly cutting instruments from the orthopedic department, which are not readily available in OT. Here we explain a method of removal of the metallic ring using detumescence and fasciotomies.

Case Report

A 30-year-old saint applied a metallic ring at the root of his penis, forty-eight hours before presentation to us with strangulation and priapism like state (Figure 1). The ring 0.5 cm thick, 2.3 cm internal diameter was stuck at the root. Initially, the patient was not willing to reveal the motive behind it, but with rappo, he mentioned it to avoid erections. He complained of local pain, diffuse penile swelling, decreased penile sensation and difficulty in passing urine since twenty-four hours. On physical examination, vitals were stable and local examination revealed highly edematous penile tissue with slight local ulcerations. There was no abdominal lump (palpable bladder) on examination. Nelcath No. 14 was passed per urethra and secured, draining 400 ml urine. Initial attempts of reducing priapism by applying glycerin pack failed and the patient was taken to OT and under anesthesia, attempts to cut ring using osteotomes, Gigli saw, Wrigley's wire from the orthopedic department was made but in vain.

Penile detumescence was done by aspirating blood from corpora cavernosa and adrenaline was injected to prevent the inflow of blood, causing vasoconstriction. Multiple fasciotomies were done to reduce edema and ring was slid out after lignocaine jelly application, with traction and continuous compression applied throughout the procedure (Figure 2). The patient was kept catheterized and output monitored. Sterile Neosporin applied dressing was done. Intravenous antibiotics were started. After twenty-four hours, there was a slight devascularization of the penile skin. The patient had an uneventful recovery with regular dressings.



Figure 1: Metallic ring at the root of the penis.



Figure 2: Removal of the ring by multiple fasciotomies.

Discussion

A number of literature reports describe foreign body application in adults, mostly to have sexual gratification by prolonging erection. Their use may be bounded by simply sexual curiosity. Entrapment or strangulation of the penis is a rare urology emergency which can have a wide range of vascular and mechanical derangements, from mild

nonsignificant vascular obstruction that resolves after decompression to severe gangrene of the penis. Our patient presented with diffuse penile swelling, edema, impaired penile sensation, so was categorized as Grade II injury as per the grading system by Bhat et al. [2].

- Grade I: Edema of the distal penis. No evidence of skin ulceration and urethral injury
- Grade II: Injury to skin and constriction of corpus spongiosum but no evidence of urethral injury. Distal penile edema with decreased penile sensation
- Grade III: Injury to skin and urethra but no urethral fistula. Loss of distal penile sensation
- Grade IV: Complete division of corpus spongiosum leading to urethral fistula and constriction of corpus cavernosa with loss of distal penile sensation
- Grade V: Gangrene, necrosis, or complete amputation of the distal penis

Further, this grading system by Bhat et al. was simplified and modified by Silberstein et al. into two categories [3]. Low-grade injuries include penile edema, ulceration of the skin, and decreased penile sensation with no evidence of urethral fistula. High-grade injuries are defined as injuries that are likely to require surgical intervention. Our case falls under low-grade injury.

The removal method depends on the type of object, size, site, strangulation time and equipment available in OT. The entrapment by various metallic and non-metallic objects has been cited in literature but more severe injuries are caused by non-metallic objects in view of their elasticity and therefore exert greater pressure on the penis. The objects pulled onto the penis causes clamping effect and leads to venous stasis; which on prolonged period causes blockage of penile arterial and lymph supply leading to ischemia or infarction [4].

Koifman et al. in their large study on 26 patients spanning over 16 years showed that the mean time elapsed between application of penile constriction object to hospital presentation was 22.8 hours (ranged from 10 hours to 6 weeks)[5]. They also showed that non-metallic devices were used by 66.6 % patients and the main reason was erectile dysfunction (55.5% cases) followed by autoerotic intention and psychiatric disorders. They evaluated that 55.5 % of cases had grade 1 injury as per Bhat et al classification and 88.8% cases had a low-grade injury as per Silberstein et al [3].

Various methods have been described in the literature for the removal of constricting devices. When choosing any method, type of material, the severity of the penile injury and surgical tools availability must be taken into account [6]. Early treatment is essential to avoid the potential complications of ischemic necrosis and autoamputation. An initial attempt to reduce penile edema should be made. If possible, the

foreign body may be cut using appropriate instruments [3,7]. Efthimiou I, Kazoulis S and Christoulakis I reported a case of successful removal of a foreign body by an angle grinder, with tinfoil in between the ring and penile skin and pouring cold water on the field to prevent thermal injury [8].

In our patient, the glycerin pack was tightly applied to reduce penile edema but the swelling did not reduce. Under anesthesia, the ring was first tried to cut using Wrigley's wire, then Gigli's saw was sought, then osteotome was tried but no orthopedic device seemed to help. We proceeded with aspirating blood from corpora cavernosa using a 22G needle and distal penile compression applied. Adrenaline 1:10,000 dilution was injected to cause vasoconstriction, to prevent the further inflow of blood. Alternate hot and cold saline moist packs were applied to achieve further decompression. In this way, both the etiologic factors for diffuse penile swelling, that is tumescence and skin edema was taken into consideration and with few small fasciotomies, to give space for ring extraction, the foreign body was successfully removed.

Conclusion

The incidence of encircling foreign bodies around the penis for sexual gratification is rare in India. However, the reported cases may just be the tip of the iceberg as many cases go unnoticed with the treatment given by local physicians. There remains a lot of inhibition in Indian men to approach the urologist for erectile dysfunction. We believe that it is mostly possible to dislodge such encircling objects by the method described above and the use of orthopedic instruments is hardly required.

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