

Penile Strangulation due to Foreign Body: A Rare Case Report

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ABSTRACT

Incarceration or strangulation of penis is a rare clinical situation that requires urgent urologic management to prevent its devastating outcomes. The treatment of penile strangulation is decompression of the constricted penis to facilitate free blood flow. Many different techniques have been described in the literature to remove genital foreign objects, but there is no universally successful technique. Each case needs individual handling in removing the object. It requires no particular skill but does require resourcefulness to perform the removal simply and effectively, and with as little discomfort for the patient as possible. These injuries are divided into five grades and their treatment options are divided into four groups. Surgical techniques are reserved for the advanced grades (Grades IV and V).¹ We report a rare case of penile strangulation by metallic ring due to autoerotic practices by the patient.

CASE REPORT

A 21 year-old healthy male presented with complaints of progressive pain and swelling over the penis. Detailed history revealed placement of a metallic ring over the root of penis 4 hours back for the purpose of sexual gratification. Repeated attempts by the patient to remove the object had failed. Physical examination revealed a grossly edematous penis. The base of the penile shaft was encircled by a sturdy metallic ring. There was no breach in the penile skin beneath the constricting object and the scrotum and testes were normal. Attempts to slip off the object by manual decompression did not succeed. Manual ring cutter was used for cutting metallic ring. After removal of constricting object, there was edema and hyperesthesia of penis and slight skin necrosis. There was no difficulty in micturition. There was no progressive necrosis and blackening of the penile skin. The patient was treated conservatively with oral antibiotics. Patient was discharged after 48 hours under stable condition.

This article contains two figures:



Figure 1: showing penile strangulation by metallic ring



Figure 2: showing penile strangulation

DISCUSSION

Penile strangulation by constricting devices is uncommon but urological emergency. One of common reason for placement of these constricting devices around penis is auto-eroticism.² The presence of these constricting devices results in a potential penile compartment syndrome with an initial obstruction of both venous and lymphatic outflow distal to the device followed by arterial inflow obstruction, ultimately resulting in tissue ischemia and necrosis.³ The choice of object and the resulting clinical consequences are widely variable and therefore the treatment options have to be individualized as per the clinical scenario. Consequences of penile strangulation can be urethro-cutaneous fistula, penile skin necrosis, penile fibrosis, and complete gangrene of penis. A thorough history including duration of incarceration and physical examination to assess type and composition of the constricting object, local tissue temperature, color, sensation, edema, voiding difficulty and viability of affected tissues is vital before deciding upon the treatment.⁴

Grading scales for penile incarceration

Penile Injury Grading System By Bhat et al.^{5,6}

Grade	Injuries	Revised Grading System [5]	
Grade I	Edema of distal penis. No evidence of skin ulceration or urethral injury	Low grade Injuries	
Grade II	Distal oedema, skin and urethral trauma, corpus spongiosum compression and decreased penile sensation.		
Grade III	Skin and urethral trauma, no distal sensation.		
Grade IV	Separation of corpus spongiosum , urethral fistula, corpus cavernosum compression, no distal sensation.		High Grade Injuries
Grade V	Gangrene, necrosis, or complete amputation of distal penis.		

High grade injuries have been reported to be higher with non-metallic objects as compared to metallic objects. The probable cause for this may lie in the fact that non-metallic objects are more elastic and can produce more severe constriction on the penis.¹ The duration of incarceration plays an important role in the severity of the clinical presentation. The associated embarrassment is often the cause of delayed presentation with consequent sequelae. Silberstein et al. reported a higher incidence of high grade injuries when patients presented after 72 hours as compared to patients presenting within 72 hours.⁶ In our case, patient presented within 4 hours and therefore was having low grade injuries. So, prompt removal of the constricting foreign body should be the primary objective of treatment.

Although various techniques for removal of offending objects have been reported, the widely variable clinical presentation precludes any single technique to be universally accepted. The choice of removal technique is dictated by size, type and composition of the object, duration of strangulation, grade of injury, experience of the surgeon and availability of the equipment.⁷ Methods described to remove the incarcerating object include: manual removal by use of

cutter, saws, drills, decompression by aspiration of blood or degloving incision around coronal glans and sequential compression, by using string technique in which a string such as thread, suture, umbilical tape, intravenous drip, vaseline gauze is passed proximally beneath the ring, using remainder of the string bound tightly to the glans. The proximal end of the suture is lifted and unbound from the penis so that the encircling object is pushed gently over wrapped and molded penis.

The series of steps may need to be repeated several times before the object can completely remove from penis.⁸ Surgical technique by dorsal slit, removal of edematous prepuce skin or degloving with circumcoronal incision, retrieval of ring and subsequent approximation can be used in grade 2-3 injuries, concurrent or delayed skin grafting can be done if defect is large due to skin excision. Advanced grade injuries can be treated with wide tissue debridement of devitalized tissue and partial thickness cutaneous graft. Penile amputation with re-implantation using microsurgical technique for grade IV and V has been suggested. In case of gangrene of penis partial or total amputation of penis can be done.⁹

Complications are directly related to duration and grade of incarceration include: urinary retention, urethral stricture, urethral fistula, skin ulceration, loss of penile sensation, priapism, gangrene of penile skin, subcutaneous tissue or complete gangrene of penis.⁴ Long term follow-up with micturating cysto-urethrogram and uroflowmetry is necessary. In most cases, close monitoring, prevention of infection, penile skin care and heparinization are sufficient to preserve the underlying tissues. Moreover, proper psychiatric evaluation for assessment of behavioral disorders is necessary in all patients to diagnose and manage any underlying cognitive impairment.⁴

CONCLUSION

Penile strangulation from constricting metallic objects is an uncommon urological emergency and requires prompt intervention to prevent complications. On the basis of published case reports, it is difficult to lay down strict guidelines about the correct procedure to be used in these cases. Each case is unique in presentation owing to the variables involved the type of object used, the duration of trauma, the individual anatomy and the degree of tissue reaction to the insult. Based on the available resources, the expertise of the treating surgeon and the condition of the affected organ, the management has to be individualized for each patient. The duration of injury is probably the single most important factor affecting the outcome of the treatment.

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