Case Report

Penile strangulation by a metal ring

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ABSTRACT

Penile strangulation due to the metallic ring is an uncommon clinical entity that requires urgent attention to prevent irreversible nerve damage, and if neglected gangrene of the penis. Various methods have been described in the literature for removing constricting foreign bodies, but there is no consensus regarding an acceptable technique. We report the case of a 51-year-old man with a history of a metal ring used for sexual pleasure lodged over the shaft of his penis with an inability to remove the same.

Key words: Penile strangulation, Metal ring, Foreign body

Penile incarceration and strangulation are rare clinical entities in the adult population that must be addressed promptly. In an adolescent male, the use of rings and foreign bodies for masturbation and sexual curiosity is a known cause [1]. Such rings are usually worn on the shaft, base, or at the root of the scrotum. Rings are applied on the flaccid penis to restrict the returning flow of blood from the male genitalia, which increases the volume of blood retained in the distal phallus and thus, increases the duration and appearance of an erection. When such a ring is left in place for a prolonged duration, causes penile incarceration or gangrene.

In most cases, social embarrassment led to delays in seeking medical attention by patients which affect the outcome. Hence, we report this case to discuss the possible treatment options available in the management of such patients.

CASE REPORT

A 51-year-old man presented with a history of swelling of the penis for 5 days. On inquiry, he gave a history of the application of a metallic ring over the penis for sexual pleasure. Subsequently, it led to pain, swelling, and inability to remove the ring along with difficulty in passing urine for 1 day. He denies previous use of such objects for sexual pleasure and admitted the event to be a misadventure.

On examination, his vital parameters were normal. A metallic ring about 2 cm in diameter and 0.5 cm in width became trapped at the mid-shaft of the penis, causing distal shaft edema and cyanosis (Fig. 1). Tenderness was noted in the distal part with the formation of a constriction band.

An initial attempt in the casualty to dislodge the ring with topical anesthetics and lubricants was unsuccessful. Glycerine was applied to reduce the edema of the distal penile shaft. In view of the imminent risk of penile gangrene, the decision was taken to remove the foreign body under anesthesia. A lubricated polyethylene sheet using 2% lignocaine jelly was negotiated in between the penis and the ring circumferentially followed by successfully sliding off the ring over the sheet and the penis (Fig. 2). The patient had an uneventful recovery. The skin at the site of constriction was congested but intact. Oedema and cyanosis of the distal shaft and glans resolved over the next 48 h. A psychiatric evaluation was done. During follow-up, no residual injury was observed.

DISCUSSION

Penile incarceration or strangulation was first reported in 1755 by Gauthier [2]. The cause of such incarceration varies and depends on the age group affected. In adolescents and young adults, the use of rings and foreign bodies for masturbation and sexual curiosity is a known cause, whereas, in middle-aged or elderly, it is used for erectile dysfunction and to increase sexual performance. Occasionally, patients with psychiatric illnesses apply constrictive agents to the penis. The use of a rubber band to hold a condom catheter in place resulting in strangulation of the penis has been reported [3]. “Hair thread tourniquet syndrome” is one of the most common causes of penile strangulation in the pediatric age group [4-6]. This syndrome is seen in circumcised

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Figure 1: Metal constriction ring (white arrow) trapped over the shaft of the penis

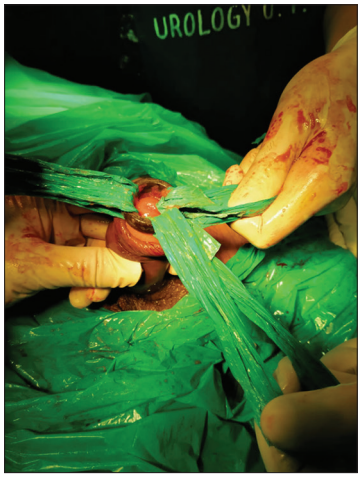

Figure 2: Successful removal of metal ring trapped on the shaft of penis by negotiating polyethylene sheet in between penis and the ring and sliding off the ring over a sheet

children, caused by circumferential constriction of the coronal sulcus by constricting material, that is, thin maternal hair. Other causes in children may be child abuse and wrapping the penis with thread to prevent enuresis or nocturia [4,5,7].

In most cases, there is a delay in seeking medical attention due to fear of social embarrassment or negligence by patients. A few cases have been reported where constricting devices were used under the influence of recreational drugs with failure to remove post-coitus [8]. This makes the task of removing the constricting foreign body even more difficult. The severity of symptoms ranges from mild edema of the penis to frank gangrene, depending upon duration, type of strangulating agent, and infection at the time of presentation. Cases have been reported that warrant debridement or amputation due to the non-viability of structures distal to the constriction ring despite of removal of the offending object [9].

Penile injuries following the use of a foreign body were graded into Grade 1: Edema of the distal penis. Grade 2: Injury to skin and constriction of the corpus spongiosum. Grade 3: Injury to skin and urethra. Grade 4: Complete division of the corpus spongiosum leading to urethral fistula and Grade 5: Gangrene, necrosis, or complete amputation of the distal penis. Non-metallic objects are easy to remove but the injury caused by them is severe [9,10].

Various therapeutic options have been used [11] such as the thread method which consists of using a silk thread to compress the edematous area that facilitates the sliding of the ring, and has shown good results for grades 1, 2, and 3 and allow decompression without tissue damage [12,13]. In another technique, aspiration needles are used to aspirate the blood of the glans and corpus cavernosum or to make subcutaneous punctures to evacuate the lymph that causes edema. The use of ice packs along with needle punctures of the preputial glans to reduce edema has been reported [14]. A mechanical technique like cutting off the ring, using equipment like a simple hand clamp to compress air saw or dental micrometer reported successfully, this method is mainly used for grades 1–3 [15-17]. Surgical decompression is especially recommended for Grade 5 and consists of denudation of the layers of the penis to the Buck fascia followed by a skin graft. Although most patients experienced an uneventful recovery [8,12], few patients with wound infections required readmission and intravenous antibiotics. Debridement, reconstruction, and skin grafting may be required in a few patients [18,19]. Severe degree of constriction, delay in presentation, intervention, and comorbidities have been associated with adverse outcomes. Discussion and psychosocial care to prevent such disasters have been recommended especially in psychiatric patients [20]. Treatment options need to be tailored according to the grade of injury, expertise, and available equipment in the treating center. Our patient fell into a grade one injury and was successfully removed using a polyethylene sheet technique.

CONCLUSION

Penile strangulation due to a foreign body is a rare clinical scenario, requiring urgent surgical attention. Relieving the strangulation as early as possible ensures lower complication rates. Each case needs to be assessed individually and surgeons should be aware of all possible modes of treatment options.

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