

Case Report

Penile strangulation by a metal ring: an easy and unique thread method for removal of the ring

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ABSTRACT

Penile incarceration is a rare but serious problem. Rapid treatment is necessary to prevent penile infarction. Glass bottles, metal rings, steel nuts and bull rings have been reported as constricting agents. Depending on the type of material, various tools such as diamond drills, bolt cutters and glass saws have been used to remove the objects. Penile strangulation by metal ring is a rare surgical emergency situation which requires urgent intervention to avoid vascular and urethral injury. It is usually associated with an attempt to improve sexual act and/or to prolong erection, psychosexual disorder. It is difficult to cut a metal ring as the edema was out of proportion and metal ring had made pressure ulcer at pen scrotal junction. The treatment of penile strangulation is decompression of the constricted penis to facilitate free blood flow and micturition. 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. Here, author presented a case of penile strangulation in which metal ring was removed by silk thread.

Keywords: Metal ring, Penile strangulation, Silk thread

INTRODUCTION

Penile strangulation has been first time reported in 1755. Since that time, sporadic reports have appeared in the literature describing a variety of foreign bodies on the penis that have in common only the property of circularity. Entrapment or strangulation of the penis is usually associated with an attempt to improve sexual act by maintaining a prolonged erection. It usually a rare case which do not come in routine practice.¹ Non-metallic, thin objects can easily be cut off but penile entrapment with heavy metal ring can pose difficult problem, especially as the metal ring cannot be cut by the available instrument in operation theatre.² Penile entrapment could lead to different degrees of vascular obstruction ranging from mild non-significant vascular obstruction that resolves after decompression to severe gangrene of the penis.³ Penile strangulation is an unusual

clinical condition and the consequences can be severe. Penile strangulation could lead to different degrees of vascular obstruction. Consequently, several clinical syndromes can occur from mild nonsignificant vascular obstruction that resolves after decompression to severe gangrene of the penis accompanied with impaired renal function. The most common motive associated with foreign bodies on the penis is sexual or erotic in nature.

The choice of method for removal depends upon type, size, incarceration time, trauma grade and availability of the equipment. Prompt diagnosis and early treatment are essential to avoid the potential complications of ischemic necrosis and auto amputation. In this case, author removed the metallic ring by passing silk thread between penile skin and metal ring and slide the ring on thread and removed it without injuring shaft of penis. Patient was catheterized with infant feeding tube no. 8

preoperatively. This patient later gave history of substance abuse and having psychosexual disorders at time of discharge he was medication for that.⁴

CASE REPORT

A 45year old male patient came at surgery OPD with complain of pain and swelling at penile region and difficulty in maturation since 2days (Figure 1).



Figure 1: Clinical picture.

In history, patient himself applied metal ring over penis for better and prolonged sexual experience, he did this under influence of alcohol. After few hours, he noticed swelling and feeling pain at penis, he ignored all this for a day due to social stigma. On clinical examination penis was fully swollen and there was pressure ulcer at pen scrotal junction. Patient was able to pass urine but it was pain full and also had an episode of fever.

After evaluating history and clinical examination patient was posted for surgery under spinal anesthesia for metal ring removal. All preoperative investing was within normal range. After anesthesia and painting and draping, catheterization was done with infant feeding tube no. 8, initially author tried to cut the ring with bone cutter but it was not helpful. There was no availability of metal cutter at that time so they decide to remove with help of silk thread no. 1.

Author took 15cm long silk thread and encircled it around the penis from the upper border of metal ring, than they passed the lower end thread beneath the ring and gently unwind the silk from base of penis towards glans, lubricating jelly applied all over penis and silk thread, while unwinding the thread a gentle pressure applied just above the ring to facilitate its sliding over silk thread, by doing this maneuverer author were able remove metal ring successfully without any dorsal slit over skin any without any trauma to glance (Figure 2, Figure 3, Figure 4 and Figure 5). Post-operative recovery was uneventful Foley's catheter removed on day 5 urine passed normally and patient was discharged, during

period of hospitalization psychiatric reference was done and patient was with psychosexual disorder and substance abuse. After follow-up for six months patient have no complain of difficulty in urination and able have satisfactory sexual intercourse.



Figure 2: Removing ring with silk thread.



Figure 3: Sliding method.



Figure 4: Sliding method.

DISCUSSION

The penis is a very sensitive and precious organ for a man a minor injury can cause serious discomforts. Any penile trauma should be managed urgently.⁵ Penile entrapment by metal ring if left unmanaged can result in ischemia, necrosis, and amputation of the penis. The reported motives for removal of such metal ring with help of simple silk thread in case of unavailability of any metal cutter or other fancy instrument.

The method author used was routinely used by goldsmiths in case of a ring stuck in a finger. Entrapment of the penile shaft with rings reduce venous return and maintain erection.⁶ This leads to swelling of the penis distal to the object due to the initial blockage of the venous return and later arterial supply. After few hours, penile strangulation can result in ischemic necrosis and fibrosis of the tissue.

Reported complications occurring with time and degree of incarceration include urinary retention, skin ulceration, desquamating epithelium and bullae, urethral stricture, urethral fistulas, priapism, gangrene, and auto amputation.⁷ Graded such injuries according to severity as:

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

On the base of grade of injury and material of entrapment and distal edema caused by it, releasing it can be challenging. If the constricting object was soft like plastic ring, it can be easily cut off but thick stainless steel or iron was very difficult to remove with saw or cutter. There are many methods for removing thick, hardened strangulating materials, including aspiration of the corpora or the use of saws, grinders, dental drills, and the string method.⁸

By cutting metal it produces heat, and penis itself must be protected during cutting, which can be difficult because there was usually no space between the metal and penis. Likewise, the metal must be cut in two spots to avoid damage to the penile skin during removal.^{9,10} In this case, there was no availability of any kind of cutter and the thickness of metal ring was around 8mm. So author decided to remove metal ring by sliding it over a silk

thread, for this they encircled penis above the upper border of ring with silk thread and the lower end of silk was passed beneath the metal ring than lubricating jelly applied all over the silk thread and penis after that they gently pull the lower end of thread and unwind the thread from below to upwards during this process a gentle pressure applied just above the upper border of the ring with handle of forceps to facilitate the sliding of ring easily author did not made any dorsal slit to reduce edema.¹¹⁻¹³

CONCLUSION

Though penile strangulation is usually uncommon but it can be managed successfully without having any kind of metal cutter or dental micro motor. Removal of metal ring with thread was very cheap and tried tasted method from a long time by goldsmiths, by applying the simple knowledge author can handle such cases easily.

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