

Case Report

Treatment of Penile Incarceration : A Case Report (String Method)

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Abstract : Cases of penile incarceration with constrictive band are occasionally seen in the emergency room, and treatment is to remove the constrictive band.

We report a case of penile incarceration in a 50-year-old man, the penis was encircled by a metallic nut. This paper describes a simple method to deal with such an emergency in which no special skill is required and no immediate or long term morbidity related to the treatment.

เรื่องย่อ : การรักษาภาวะห่อรัดอวัยวะเพศชาย โดยวิธีใช้เชือก (String Method)

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ภาวะห่อรัดอวัยวะเพศชายสามารถพบได้ในห้องฉุกเฉินของโรงพยาบาลทั่วไป, การรักษาก็คือการเอาห่อรัดออกเราได้รายงานผู้ป่วยรายหนึ่งที่ใช้แหวนโลหะรัดที่โคนอวัยวะเพศชาย. รายงานนี้ได้อธิบายวิธีใช้เชือก (String Method) ซึ่งไม่ยุ่งยากง่าย ที่จะเอาแหวนโลหะนี้ออกได้โดยไม่ต้องใช้ความชำนาญ หรือวิธีการพิเศษใดๆ และไม่ก่อให้เกิดผลแทรกซ้อนแต่อย่างใด

Backgrounds

Incarceration or strangulation of the penis is an emergency problem and has been reported following the application of numerous foreign objects including metallic nut, rings, bushes, sprockets in

adults especially mentally disturbed men while in children they trend to be rubber bands, thread or hair. The reason is to prolong erection and better sexual functioning¹ in adults, in children have sometimes been claimed to be used by the parents to prevent enuresis and urinary incontinence² or represent an

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innocent childish experiment.³ Because the occlusion of penile venous flow, most patients present to the emergency room with edema, occasionally patients present with long standing constriction, necrosis of the penile tissue and urethral injury. Many methods to remove the strangulating object have been reported. Metal rings have been removed with high speed drills, cutting tongs, hammer and chisel, but a safe, surgical operation, the aspiration technique and the string method.^{1,4-10} We present an adaptation of the string method, originally¹¹ proposed for removing a strangulation ring from a finger, and later used successfully by Browning and Reed for incarceration of the penis.⁹

CASE REPORT

A 50-year-old man presented to our hospital in the casualty department with penile incarceration. He was taken to the hospital 10 hours after introducing a large metallic nut with an inner diameter 1 cm, outer diameter of 3.5 cm, width 1 cm, encircling and strangulating the penis at its root for a longer erection (Figure 1).

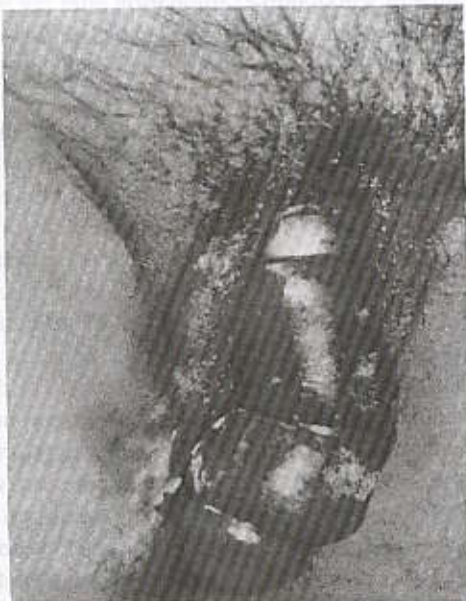


Fig 1.

Before coming to the hospital, he had tried several methods to remove the nut. At the emergency room the glans penis was marked by swollen, dark blue and there were superficial lesions on the penile skin, extensive edema at distal penile part but not yet gangrenous. He had no significant urinary retention. Attempts in the emergency room to remove the nut using lubricant had not been succeeded due to the swollen glans penis and penile skin.

The metallic nut was removed successfully by the string method. Under intravenous pethidine. The thread (silk, nylon, prolene no 0, 2-0) was winding tightly around the penis distal to the strangulation. The proximal end of the thread was passed through the lumen of the nut while unwinding the thread from the proximal end, the nut was slowly slipped off (Figure 2,3).



Fig 2.

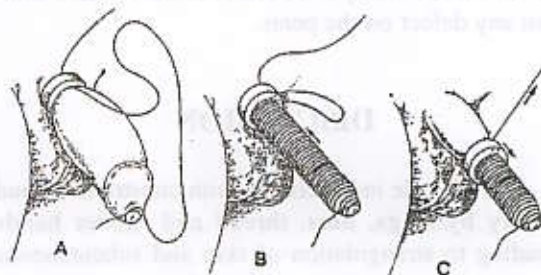


Fig 3.

A, Edematous penis with metal ring trapped at base of penis. Note heavy string has been passed beneath the metal ring using a small curved clamp. B, String has been wrapped from meatus to the level of the ring thereby compressing the edema out of the distal penis. C, Ring is now being pushed distally over the shaft of the penis, which has been constricted by ring.

Due to marked edema, two additional punctures were made to the glans on either side of the midline and blood was aspirated. This resulted in flaccidity of the glans and using some lubrication, the nut was removed with out difficulty (Figure 4).



Fig 4

The patient recovered well during observation in the hospital for 24 hr. After that the patient could void normally and he had normal erection without any defect on the penis.

DISCUSSION

Penile incarceration with constrictive band injury by rings, nuts, thread and rubber bands leading to strangulation of skin and subcutaneous tissue, cavernous tissue or even deeper, is not common in the literature. Only 114 case reports of stran-

gulation of the penis prior to 1945 could be collected by Hoffman and Colby.¹² Most cases were children and young adults. Chaplot¹³ and Markl and Merrill¹⁴ observed that the strangulation objects in children were usually rubber band or thread to prevent enuresis and urinary incontinence or as an innocent childish experiment. But adults used metallic nuts rings to prolong erection or to produce orgasm especially mentally unbalanced men.

Patients may present in various degree of penile strangulation, edema of distal penis, injury to skin and urethra, complete division of corpus spongiosum, constriction of corpus cavernosum with loss of distal penile sensation and gangrene, necrosis or complete amputation of distal penis, due to severe strangulation and prolonged vascular occlusion. A soft and thin material such as hair may penetrate deeply into the penile tissue.

Constriction by the encircling object initially causes blockage of the venous return and continued arterial supply results in further swelling of the penis distal to the obstruction. The evaluation of penile strangulation includes assessment of temperature, colour, sensation, ability to void and pulsation distal to the strangulation, it is best to evaluate by a Doppler flowmeter. Arteriography is less useful since the results may be questionable and time is wasted before the constrictive band is removed.¹⁵ The technique of woodlamp examination after the intravenous administration of fluorescein has proved valuable in assessing blood flow to the skin distal to the constrictive band.¹⁶

Penile incarceration is an acute condition and must be solved rapidly to avoid amputation. The aim is to remove encircled object. The choice of method for removing the object depends on its type, size, how long it has been in place and the availability of equipment. Peter and Sagalowsky¹⁷ recommended sectioning the object with a metal cutting device. Drilling, sawing, hammer and chisel or cutting tongs are the most popular approaches. The drilling method is rather slow, often taking several hours and generating much heat and high speed diamond drill are not easily available at every acute care unit. If the penis is marked swollen, cutting tongs or a saw cannot be used. Tawari, Razdan and Yadav⁴ reported swelling accompanied by gangrenous patches of the skin such that it was necessary to deglove the distal penis to the level of the cavernous tissue in order to

remove a nut. Shellhammer and Donnelly⁸ have also described a similar case in which removal of the cutaneous and subcutaneous coverings of the penis was necessary before an iron ring could be removed. B.B. Sinha¹⁸ had reported a simple method in which multiple punctures and aspiration of blood from the engorged penis. The string method described, is one treatment of choice for removal encircled object.

The importance of early diagnosis, meticulous attention and careful management can deal a serious injury and recover with few complication in penile strangulation

The string method described is a simple, rapid atraumatic method to remove a strangulating object from the penis. Therefore, we recommend it as a treatment of choice for penile incarceration. Urethral catheterization for 1-2 day is enough in the case that there is no evidence of urethral injury, in severely injured urethra, suprapubic cystostomy must be performed and the urethra should be evaluated radiologically after removal of the constrictive

band. The evaluation of penile strangulation includes assessment of temperature, colour, sensation, ability to void and pulsation distal to the strangulation ; the latter is best evaluated by a Doppler flowmeter. The technique of wood lamp examination after the intravenous administration of fluroscein has proved valuable in assessing blood flow to the skin distal to the constriction band. Devitalized tissue should be excised and skin replacement with a graft or flap. Mild ulceration may heal with simple dressing but a urethral fistula may require a reconstructive procedure.

CONCLUSION

Incarceration or strangulation of the penis is a emergency problem. Many methods to remove the strangulating object have been reported, those requiring times and heavy instruments but the aspiration and string method, presented is simple and safer solution to this problem.

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