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Penile Strangulation Caused by a Steel Ring in Child: Case Report

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Abstract: Penile strangulation is an infrequent clinical condition, it usually results following placement of a constriction device to enhance sexual stimulation. Early treatment is essential to avoid potential complications. We report a case of a 14-year-old boy who presented with a 12-hour history of a steel ring constricting. Attempts to remove it with clasical maneuvers were unsuccessful. After all, the ring was cut along two sides with dental diamond Burs**.** The ring was successfully removed and the patient was discharged without complication.

Keywords: Strangulation, Steel Ring, Diamond Burse

1. Case

A 14 year old boy presented in our hospital with a steel ring constricting his penis that he could not remove. The ring had been placed 12 hours ago. He complained of pain and swelling on his external genitalia. On clinical examination he had normal vital signs and there was marked local oedema (figure1). Attempts to remove it with lubrication, compression or cutting devices from the department of pediatric surgery were unsuccessful. Further attempts to cut it failed again. The patient was sent stomatological department and the ring was cut along two sides with the help of dental burs diamond cutting disc (figure 2.). The ring was successfully removed and the patient was discharged without complication.

2. Discussion

Complications are directly related to duration and grade of incarceration include: urinary retention, urethral stricture, urethral fistula, skin ulcerations, priapism, gangrene of penis (2). The choice of method for remove the encircling objects depends upon type, size and incarceration time, prompt diagnosis and early treatment are essential to avoid the potential complications of ischemic necrosis and autoamputation.

Dong C 2013 et all. reported a successful removal of metal ring causing penile strangulation by a silk winding method (9).

The procedure include ligature of silk string passed proximally through the metallic ring, the silk wound around the penis 10 to 15 times just below the metallic ring, subcutaneous punctures then performed at three sites of the distal part penis foreskin. A glandular puncture was performed at the glans of penis. The metallic ring is then pushed distally 2 to 3 mm down the penis.

Cutting methods are often the first method for dividing an encircling device that cannot be removed with sequential compression.

Shukla P et al 2014 (2) puplished a review of 7 patients with successful removal of the constricting metallic objects**,** duration of incarceration varied from six hours to seven days. Most of the patients presented within 24 hours. The technique of removal chosen was according to grade of penile injury, duration of incarceration and type of object used. String technique with glans aspiration used in 3 cases, cutting devices (steel saw) were used in two cases, glans aspiration with hot compression to relieve distal penile edema was used in one case.

Various cutting devices including non-electric cutting devices like hammer and chisel, ring cutter, hack saw and metal saw, or electric cutting devices like dremmel rotary tool, anspach saw with tungsten carbide bits, heavy drills, high speed electrical steel saw and pneumatic drill have been reported in literature (3-7).

Different surgical approches were reported to managment

penile strangulation such as string technique with glans drainage, aspiration technique utilizes multiple punctures of the distal penis with subsequent decompression (2), a new surgical techniquedescriped by Baruah S. J et all 2009 (8): Corporal aspiration and dorsal slit distal to the ring followed by warm moist pack compression and traction skin proximal to the ringe and ring displaced distally.

We reported a successful removal of the metal ring using electrical rotating diamond disc which is used as stomaoloigical instrument, on the best of our knowledge, this type of tools was not reported in the literature before. The electrical devices are highly effective in cutting thick metal ring but it should be used with caution to prevent injury to surgeon and patients. To avoid damaging the surrounding edematous tissue a shielding device should be placed between foreign body and penis.

Figure 1. *Swellened penis with mettalic ring.*

Figure 2. *Cutting tools used.*

3. Conculision

Penile strangulation is an unusual clinical condition in children, prompt recognition, urgent decompression of involved tissue by removing encircling object is required to prevent potential complication.The choice of method for removal depends upon type, size and incarceration time.

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