VOLUME - 11, ISSUE - 02, FEBRUARY - 2022 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

General Surgery

MANAGEMENT OF PENILE STRANGULATION CAUSED BY CONSTRICTING METALLIC DEVICES

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ABSTRACT Application of constricting devices on the external male genitalia for increasing sexual performance is an unusual practice that can potentially lead to penile strangulation with severe consequences. In this case report we describe a case of a 45-year-old male who presented in our hospital with a metallic ring on his external genitalia which led to penile strangulation and a short review of the literature. The foreign body was successfully removed with an angle grinder which was not immediately available in the operating theatre. The patient had an uneventful recovery.

KEYWORDS : penile strangulation, metallic ring

INTRODUCTION

Constricting devices placed on the penis present as a challenge . Various nonmetallic and metallic objects are placed on the penis to increase sexual performance or because of autoerotic intentions.. 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.

CASE REPORT:

A 45 year old male resident of Nepal working as a labourer in private company in Rohtak . He is married for 12 years with two children. He was staying away from his family since last two years. He was advised by his co-worker to place a metallic ring over the penis for one month to increase the duration of erection and prolong sexual activity. He used metallic ring of water pipe and unscrewed over his penis.

Patient present to our emergency department with chief complaints of pain and swelling over distal part of the penis since 2 days. On physical examination, the penis was swollen and edematous. Both testis were normal in size shape and in volume.

The PWD department of hospital was consulted and the metallic ring was cut with a steel saw by placing a PVC plaque between the ring and the penis to prevent injury to penis while cutting. The metallic ring was removed with the steel saw successfully.

Intravenous Ceftriaxone- Sulbactam 1.5 gm was administered prior to procedure and tetanus prophylaxis was done.

Patient was admitted for two days. Oedema resolved and the penis returned to normal condition in 10 days. Patient psychiatric evaluation was also done. It revealed a normal mental status.

DISCUSION:

Penile strangulation is a rare clinical condition that was first reported in 1755 [6]. They occur as a result of a constriction force of the object applied over the penile shaft. In adults, the common reasons are sexual stimulation, prolonging erection, pranks, treatment of incontinence and phimosis [3, 7]. In the literature, various causes of penile strangulation are mentioned like metallic rings, tubes, rings, plastic bottles, rubber bands, rubber strings, hair, threads [3,5].

These objects when applied over a flaccid penis causes obstruction of venous and lymphatic outflow, resulting in the penile engorgement. Due to the oedema and increase in the girth of the penile shaft, the applied object which was placed easily before is now difficult to remove. As the pressure increases because of the lymphatic obstruction and venous congestion, the continuous constriction force results in compartment syndrome like situation. This eventually leads to obstruction of the arterial inflow to the distal part of the penis, resulting in strangulation [1,2,3,4,5]. If the offending object is not

removed timely, then the strangulation would lead to soft tissue ischemia, necrosis, local infection, and gangrene [1,3,4.]

In 1991, Bhat et al. graded these kinds of injuries according to the increasing severity[2].

Grade 1 Oedema of distal penis. No evidence of skin ulceration or urethral injury.

Grade 2 Injury to skin and constriction of corpus spongiosum but no evidence of urethral injury. Distal penile oedema with decreased penile sensation.

Grade 3 Injury to skin and urethra but no urethral fistula. Loss of distal penile sensation.

Grade 4 Complete division of corpus spongiosum leading to urethral fistula and constriction of corpus cavernosum with loss of distal penile sensation.

Grade 5 Gangrene, necrosis, or complete amputation of distal penis.

Most of the patients delay in seeking medical attention due to fear of social embarrassment or at times neglect the problem and seek medical help after failed self-attempts[5, 7]. The common complaints at presentation are penile swelling, pain at the local site, or difficulty in passing urine. The delay in presentation results in penile swelling out of proportion to the inner diameter of the object stuck, thus making the task of removing the foreign body even more difficult. The prolonged placement and delayed removal of these objects are likely to cause high-grade injuries [1,4,5.]

Apart from the material of the object, other factors to be considered before taking the patient for surgery are size, length, and thickness of the object, the grade of surrounding tissue oedema, the grade of injury, and availability of the equipment [1,2,5].

There are various techniques described in the literature like aspiration, string method, cutting devices, and degloving surgeries [7, 8, 12]. The cutting technique is by far the most used intervention [. The various tools used for the same are either non-electric or electric, viz. orthopaedic equipment, ring cutters, metal saws, hammer, chisel, drills, etc. The non-electric cutting devices are easy to use but require strength and are best reserved for non-metallic items, small metal rings or wires at the most [4,5,7]. On the other hand, electric cutting devices are high-energy driven tools. They are of greater help in removing large and thick metallic objects, but their handling is difficult and requires utmost care and safety precautions to avoid iatrogenic injury to the patient and the operating team members [5,7,13].

Use of protective gear for the team members is advisable [1, 4.] Placement of a metallic object underneath the foreign body before using an electric drill helps in minimizing the risk of iatrogenic injury [4, 5, 13]. We used a scalpel handle and metallic scale in our case for this purpose. On similar lines, we used continuous cold irrigation while cutting to prevent heat injury to the underneath tissue [5, 13]. When it comes to sawing the rings or cones, they should be cut at two places, 180 degrees opposite to each other for easy removal [4,5].

CONCLUSION:

Penile strangulation is a rare but true urological emergency which needs urgent medical attention and timely removal of the offending object which can help in avoiding irreversible neuro-vascular damage to the penis and urethra.

Grade of injuries and complications are directly proportional to the type of object and the duration of the strangulation. The non-metallic objects are easy to cut and remove.

However, one should be aware of the challenges and the complications in managing metallic foreign bodies which at times may need out-of-the-box thinking, like use of motorized cutting tools.

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