(International Print/Online Journal)

SJIF IMPACT FACTOR: 5.565
PUBMED-National Library of Medicine ID-101739732

ISSN (Print): 2209-2870
ISSN (Online): 2209-2862

International Journal of Medical Science and Current Research (IJMSCR)
Available online at: www.ijmscr.com
Volume 4, Issue 5, Page No: 204-208
September-October 2021

IJMSCR

Penile Ring Entrapment and Strangulation: A Rare Urological Emergency

Dr.Murakonda Sowmya Chowdary[1], Dr Harish Kumar G[2] , Dr Tejaswini M Pawar[3]

***Corresponding Author:**
Dr. Murakonda Sowmya Chowdary
Department of Urology R L JALAPPA HOSPITAL

Type of Publication: Original Research Paper
Conflicts of Interest: Nil

Abstract

Penile strangulation by metal ring is a rare urological emergency situation which requires urgent decompression of the penis to avoid adverse effect. It occurs whenever any constricting object is placed for erotic or auto-erotic purposes or to intensify sexual performance[1]. They work by reducing the outflow of blood from the cavernosal tissue. However, if left for extended periods of time severe edema, urethral fistula, gangrene, and even complete loss of the distal penis can ensue, this is known as penile ring entrapment (PRE) Here, we report a case who presented to emergency with acute urinary retention and penile swelling secondary to metallic ring strangulation of penis

Keywords: NIL

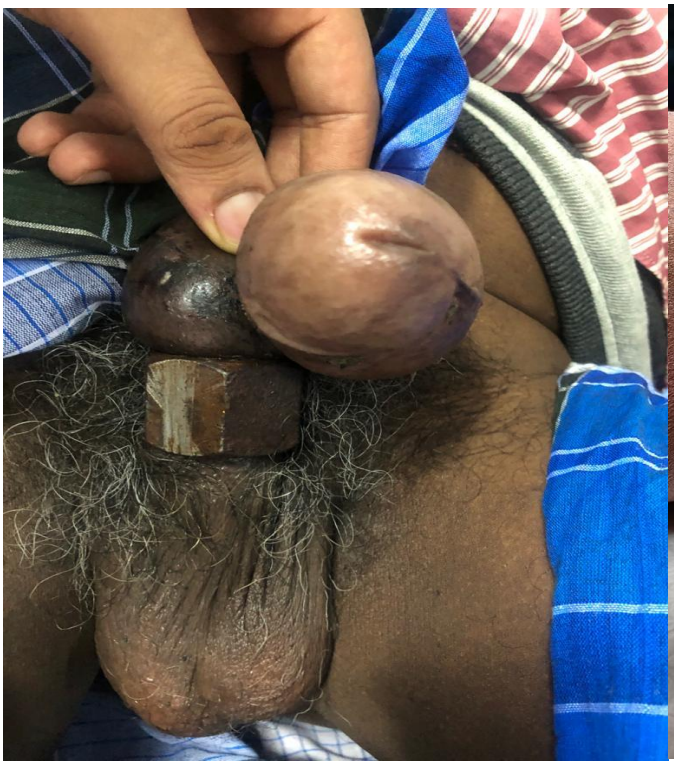
INTRODUCTION

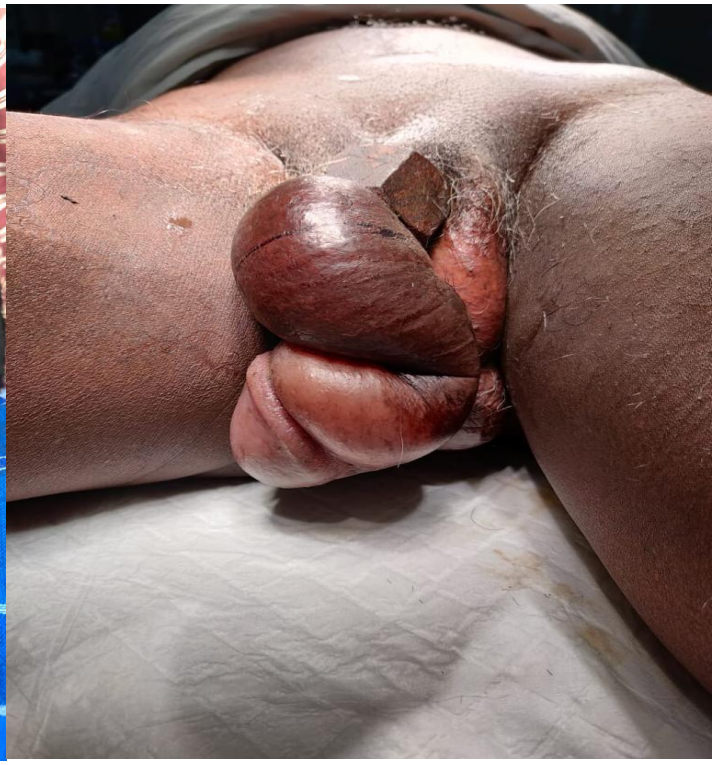
Penile ring entrapment is when a ring previously inserted onto penis is left for extended period of recommended time resulting in edema, urethra fistula, gangrene and complete loss of distal penis leading to penile strangulation. Penile strangulation by a constricting entrapped ring is a rare urological emergence that present immerse challenges to a general surgeon in resource limited centres globally. The motivation of inserting a ring or any object on a penis in adult males has been erotically associated in management of erectile dysfunction[3]. The objects which are usually used by adults and adolescents for penile entrapments are rings, nuts, bottles, sockets, or pipes. However, in children, it is usually accidental with typical objects such as rubber bands, thread, or hair. Nonmetallic, thin objects can easily be cut off, but penile entrapment with heavy metal objects can pose difficult problem, especially as the object cannot be removed by the standard equipment available in the wards and hospitals. Regardless of the material used, constriction should be no longer than 30 min. Non-metallic or metallic object are used as rings and the duration of insertion seem directly proportional to the complications irrespective of location of the ring on penis

CASE REPORT:

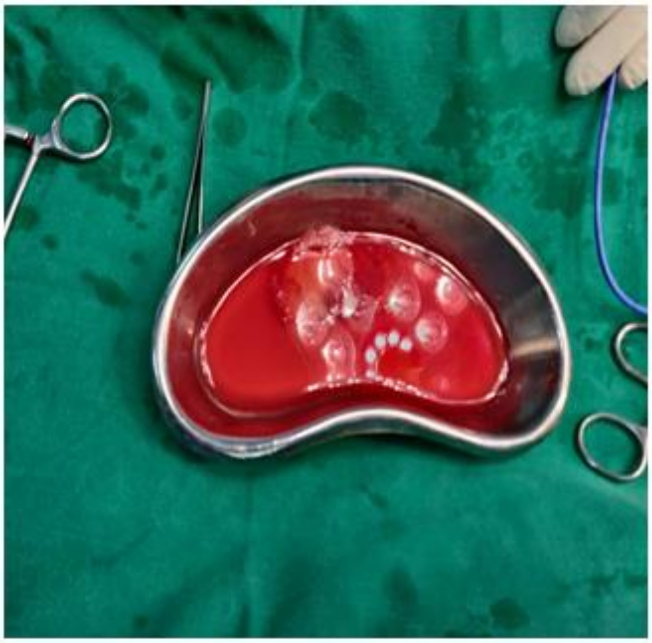
A 60-year-old male presented at casualty unit with swollen penis for 72 hours and failure to pass urine for 12 hours, following insertion of the metallic ring and failure to remove it. Patient tried application of olive oil around the penis as lubrication to help with sliding Initial attempts to reduce penile swelling by compression (in order to slide the ring off easier) failed. The patient was a married addict to recreation drugs, smoked 30 pack years of cigarette and drank 60 units of crude alcohol weekly. He denied use of erectile enhancing drugs or sexual intercourse with spouse in 4 days prior to incident and had no comorbidities of diabetes mellitus, hypertension or mental illness. On physical Examination, he had normal vital signs and graded his pain as unbearable. Locally, penis with an entrapped steel ring distal to the scrotum, grossly oedematous penile shaft with

serosanguinous fluid discharge from mottled penile shaft skin lesions with areas of necrosis. The glans penis was cold, erythematous with reduced distal sensation and capillary refill of more than two seconds. There was severe tenderness distal to the ring. The patient was clinically diagnosed of penile ring entrapment with strangulation, high-grade penile shaft skin injuries and acute urine retention. Patient was taken up for emergency OT , under strict aseptic conditions and under spinal anaesthesia needle aspiration and a release incision to decompress the corpora and decrease the swelling. Continuous compression was applied until the edema decreased enough for the ring to slide off. Necrotic patch was excised and debrided and rest of the tissues appeared viable. It revealed extensive urethral bruises, for which we placed 16 French Foley catheter. The patient recovered and showed improvement at follow-up.





Volume 4, Issue 5; September-October 2021; Page No 204-208



DISCUSSION:

A penile ring is typically used to restrict the outflow of blood from the penis to prolonged erection and enhance sexual pleasure. Wearing the ring for extended periods of time will lead to penile ischemia and strangulation. Eventually, the patient will experience severe edema, necrosis, urethral fistula, gangrene, penile amputation, and even death.

Patients tend to present late in their condition due to embarrassment.

The primary goal of management in these cases is to restore blood supply to the penis while preserving the integrity of penile and urethral tissue. Outcome of the patient depends on the grade patient falls in.

Volume 4, Issue 5; September-October 2021; Page No 204-208

Grading of penile entrapment

There are different classifications of penile entrapment that have been reported. Sawant *et al*. embrace a grading system originally described by Bashir and El-Barbary, which focuses on the consequences of penile strangulation and urethral injury not easily visible by examination. Another grading system published by Bhat *et al*. utilizes penile sensation in its classification[4]. This, however, could be misconstrued by patient anxiety and delivery of anesthesia by other providers prior to urologic assessment.

Summary of grading system

System	Grade 0	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Sawant *et al*.	No urethral injury	Partial division of corpus spongiosum + urethrocutaneous fistula	Complete division of corpus spongiosum + constriction of corpus cavernosum	Gangrene and amputation		
Bhat *et al*.		Edema distal to penis	Grade 1 + decreased distal penile sensation	Grade 1 + loss of distal penile sensation	Grade 3 + complete separation of corpus cavernosa	Gangrene or amputation

Our patient presented with gloss penile oedema, mottling of penile shaft skin and impaired penile sensation, typically a grade II injury of the Bhat et al classification.

Whereas the main motive of inserting a penile ring has been linked to eroticism and addressing erectile dysfunction to sustain an erection by impairing venous return on the other hand, male psychiatric patients use penile constrictors due to mental disorders. Although males

younger than 50 years, like for this case, carry only 12% risk of erectile dysfunction; low self-esteem, use of recreational drugs and delayed hospital consultation increases their risk of penile ring entrapment when used[5].

To date, there seems to be no consensus guidelines on removing entrapped penile constrictors, but rather a variable approach depending on the material, duration and availability of resources

The primary goal is to restore early arterial inflow, venous and lymphatic drainage to prevent further tissue damage.

Because we worked on already friable tissue, our patient developed minimal fibrotic scaring but had normal voiding at 2 weeks and 8 months follow up with no urethra cutaneous fistulae.

CONCLUSION:

PRE is a rare, true urologic emergency that can lead to penile amputation. Management should be urgent and directed toward removing the ring while protecting underlying tissue. Treatment is based on the severity of the presentation and the tools at the physician's disposal. Long-term follow up with clear erectile dysfunction assessment tools, cognitive assessment, psychological counselling on recreational drug use are key for complication while community engagement and health education in this case are important preventive measures.

Volume 4, Issue 5; September-October 2021; Page No 204-208

REFERENCES

1. Bhat G. Penile entrapment: A case where innovation is the need of the hour. Acta Medica International. 2018;5(2):90.
2. Paonam S, Kshetrimayum N, Rana I. Penile strangulation by iron metal ring: A novel and effective method of management. Urology Annals. 2017;9(1):74.
3. Pal D, Sarkar D, Gupta S, Maiti K, Jain P. Penile strangulation by different objects and its removal by the modified string method: Management of four cases with review of literature. Urology Annals. 2019;11(1):1.
4. Chen M, Rukin N. Penile strangulation secondary to a steel ring: Injury classification and management options. Journal of Clinical Urology. 2019;:205141581882120.
5. Yeast C, Marks J, Huynh D, Johnson G, Wakefield M. Penile Strangulation: A Case Report and Novel Management Strategy. SM Journal of Urology. 2015;1(2):1-3.

Volume 4, Issue 5; September-October 2021; Page No 204-208