Scholars Journal of Applied Medical Sciences (SJAMS)
Abbreviated Key Title: Sch. J. App. Med. Sci.
ISSN 2320-6691 (Online)
ISSN 2347-954X (Print)

A Unit of Scholars Academic and Scientific Society, India
www.saspublishers.com

Urology

Prevention of Penile Gangrene Development after Strngulation of Penis with Metallic Nut by Degloving Method: A Case Report

Dr. Arshad Hasan[1*], Dr. Md Faizul Haque[2], Dr. Amiya Shankar Paul[3], Dr. Gourab Kundu[4], Prof. Dr. D. Hota[5], Dr. Nalini Kanta Mohanty[6]
[1-4]Mch Resident, Department of Urology, SCB Medical College, Cuttack, India
[5]HOD, Department of Urology, SCB Medical College, Cuttack, India
[6]Mch Resident, Department of Urology, SCB Medical College, Cuttack, India

Case Report

***Corresponding author**
Dr. Arshad Hasan

Article History
Received: 10.10.2017
Accepted: 25.11.2017
Published: 30.1.2018

DOI:
10.36347/sjams.2018.v06i01.004

Abstract: Penile strangulation is one of severe damaging injury which may cause organ loss. It requires early intervention to avoid its disastrous sequelae. Removal of constricting objects is one of the challenging task in dealing with a case of penile strangulation by a metallic nut in a young age. It is an acute surgical emergency in which early intervention can preserve organ. We report a case where a 33 years young male admitted in our department with entrapment of penis with metallic nut. The constricting device was removed with degloving of penis and preservation of the organ**.** Amputaion and organ loss can be prevented by early intervention. Strangulation by entrapment of the penis is a rare conditions that require urgent relief for prevention of physical and psychological loss.
Keywords: Strangulation, Metallic nut, Organ loss, De-gloving, Skin grafting.

INTRODUCTION

Strangulation leading to gangrene development by entrapement of penis with constricting objects is one of the uncommon but serious urological emergencies [2]. Many constricting objects have been reported like plastic or glass bottles, metallic nuts, metal rings, Hammer heads, rubber bands, hairs and threads [1-3]. Because reported behind putting constricting objects in adults are for getting sexual pleasure, self- treatment of erectile dysfunction, psychiatric disorders & under influence of alcoholic addiction [2]. These objects when placed over flaccid or partially erect penis, leads to oedema and swelling of penis, resulting in entrapment.

Various degrees of penile injury like skin ulceration, urethral injuries, development of fistulae, loss of penile sensation and gangrene have been reported. No proper guideline has been proposed yet for management but urgent removal of constricting agent is must. A 33 years male reported to our department with a thick metallic nut at the root of his penis for last 3days.His penis was swelled and oedematous distal to metallic nut. With de-gloving of penis, nut was removed on urgent basis and ischaemia was revert back by multiple punctures between cavernosa and glans to cavernosa-shunting. Later on superficial skin grafting was done.

CASE REPORT

A 33 years old male presented to urology department with complain of penile swelling and a metallic bolt nut over root of penis for last 3 days. He had alleged history of self-insertion of metallic nut over the penis under influence of alcohol in night time. At morning time he noticed penile swelling & was unable to remove the metallic nut. He consulted to local doctor where per urethral Foleys catherisation done and referred here. He has been working in a hotel and married since 6 years to one wife, & has two children younger of 3.5 years. He has addiction to alcohol and tobacco and had no past history of any psychiatric illness, hypertension or, diabetes. On examination his vitals were stable, chest was clear and abdomen was soft. Local examination revealed a metallic nut bolt of diameter 2 cm with circumferential configuration over root of penis (Figure1, 2).

Fig-1: At the time of presentation

Fig-2: Metallic nut after removal

Fig-3: intra-operative picture of penis after removal of nut

Fig-4: Early post-operative photo

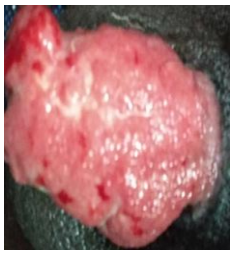

Fig-5: Post–operative after development of granulation tissue

Fig-6: photo after skin grafting

Edematous swelling of penis with blackish patches over it had made bolt unremovable. Per urethral catheter was in situ with clear urine. His routine haemogram were under normal limit and in urine microscopy RBC was nil and 0-3 pus cells. He was shifted in emergency operation theatre and metallic nut was removed by debridement and de-gloving of penile skin(Figure 3). Bilateral corporotomy was done with exsanguination of clotted blood. Puncture of glans was done from which clotted blood exsanguinates. Continous milking of penis was done till fresh blood came out and colour of penis normalised After placement of 16Fr Foleys per urethral catheterisation, dressing applied .On 6th postoperative day blackish discolouration of tip of glans was noticed(Figure 4) so partial glansectomy was done. Regular debridement of necrotic tissue and aseptic dressing was done till healthy granulation develope all-around of penis. (Figure 4). Partial thickness skin grafting was done [Figure 6] from right thigh. He recovered well and retained his penile function.

DISCUSSION

Penis is one of the sensitive and delicate organs so grievous discomfort can occur even from minor trauma [3]. Many untreated conditions like paraphimosis, priapism and penile trauma can cause ischaemia and necrosis of penis. So these require urgent management [3]. Most of the strangulated penile injury is self-inflicted whose motive varies according to constricting agents. Sexual erotic reasons, psychiatric disorders and prevention of enuresis in children occupied maximum reason for strangulated penile injury in literature [2]. Constricting agents which causes penile strangulation are usually plastic or glass bottles, metallic nuts, metal rings, Hammer heads, rubber bands, hairs and threads [2]. These constricting agents have been put in flaccid penis but after attaining an erection, patients are usually unable to remove these. DE tumescence does not occur because of occlusion of the vessels, starting with the veins then to the arteries. Initially patients use to hide their problem due to feeling of shame and embarrassment and revealed only after intolerable. Psychiatric patients neglect their injury. Consultation to doctor is usually delayed and complications begins to develope at that time. Removal of constricting agents is very challenging for the doctors due to lack of definite protocol. Treatment method for removal varies for surgeon to surgeon and usually depends on type of agents, constituents of agents, degree of entrapement, severirty of distal edema and duration of injury. In all cases urgent removal is necessary to prevent complications and organ loss. This injury is catagorised into grade by Bhat *et al.* for better management.

Grade I: Oedema of the distal penis. No evidence of skin ulceration or urethral injury.

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

Grade III: Injury to skin and urethra but no urethral fistula.Loss of distal penile sensations.

Grade IV: Complete division of corpus spongiosum leading to urethral fistula and constriction of corpora carvernosa with loss of distal penile sensations.

Grade V: Gangrene, necrosis, or complete amputation of distal penis.

Grade 1 injury require only removal of constricting agents usually by use of lubricants [1] whereas grade v injury needs complete amutation of penis with perineo-urethrostomy[2]. Middle grade injury is treated by aspiration method, cutting method, urinary diversion, string method [3], degloving and skin grafting and partial amputation. Soft objects are cut by dental drill, electric grinders or other cutting instruments. Hard objects are removed by degloving operation. Our patient is grade III injury which was treated by degloving and skin grafting. Degloving of penis is one of the successful operations for hard constricting agents with exanguation of blood from corpora and glans. Later on superficial skin grafting was done on denuded penis and so penile function restored.

CONCLUSION

Strangulation of penis is uncommon but challenging emergency in urological practice. This case report highlights about urgent intervention and creative thoughts to prevent maximum anatomical and functional penile loss.

REFERENCES

1. Jain S, Gupta A, Singh T, Aggarwal N, Sharma S, Jain S. Penile strangulation by a hard plastic bottle: A case report. Indian J Surg, 2004;66:173-5
2. Nuhu A, Edino S, Agbese G, Kallamu R. Penile Gangrene Due To Strangulation By A Metallic Nut: A Case Report And Review Of The Literature. The Internet Journal of Surgery.2008; 21(2).
3. Po-Sheng Chih, , Chung-Cheng Wang, , Chung-Hua Chen; Penile Strangulation Due to a Metal Ring - A Case Report, Incont Pelvic Floor Dysfunct 2013; 7(2):31
4. Bhat AL, Kumar A, Mathur SC, Gangwal KC. Penile strangulation. Br J Urol 1991; 68: 618-21.
5. Dubin J, Davis J E. Penile Emergencies. Emerg Med Clin N Am. 2011; 29:485-499.
6. Murthy Venkata Ramana K, Maria Arooj M, Rowan Gerard C .Penile Strangulation: Message in a Bottle. J Urol Res, 2016; 3(4): 1060.
7. Gan W, Yang R, Ji C, Lian H, Guo H. Successful remove of a metal axletree causing penile strangulation in a 19-year-old male by degloving operation. Case Rep Med. 2012; 2012: 532358.