

Penile Incarceration with Encircling Metallic Objects: A Study of Successful Removal

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ABSTRACT

Objective: This article aimed to study the various treatment options according to the grading scale for penile incarceration.

Materials and Methods: A retrospective review, of all the case files of patients presented with penile incarceration with encircling metallic object was performed. The patients were analyzed for age, marital status, motive, object used, who applied it, trauma grade, duration of incarceration, removal technique, removal time, anesthesia used and recovery time.

Result: A total of seven patients were identified. The average age was 46.71 years. Self-sexual gratification was the most

common motive (five patients). Six patients presented within 24 hours. Grade II of injury was commonest type of injury seen in five patients. The technique of removal chosen was according to grade of penile injury, duration of incarceration and type of object used. Spinal anesthesia was used in most of the cases (five patients).

Conclusion: Penile incarceration with encircling metallic objects is a rare presentation and requires urgent intervention according to trauma grade to prevent complications.

Keywords: Aspiration technique, Cutting devices, Encircling metallic objects, Incarceration, Penis, String technique, Trauma grade

INTRODUCTION

Penile incarceration or strangulation by an encircling object is an uncommon surgical emergency. Incarceration from metallic and non-metallic object has been reported throughout the world since 1775 [1], with largest series reported in USA by Daikin [2]. These objects can be plastic or metal rings [3-6], ball-bearings [7-9], nuts [10], washers [11], wedding ring [4-6], bottles [4,12], rubber bands, iron pipe [13] and even a hammer head [4,14]. A man may place these objects for erotic or autoerotic purpose [4,15-17], to increase sexual performance [2,5,15], as self-treatment of erectile dysfunction [11] and in cases of psychiatric disturbance [4,18].

Genital incarceration with encircling object is a true surgical emergency that requires prompt decompression. Most of the surgeons and their team are unfamiliar to this type of emergency because of its unusual occurrence. Its management is challenging to the surgeons where all methods are considered in an attempt to remove the ring from an inflamed penis. The aim of this study is to outline the treatment guidelines for penile incarceration by reviewing available literature and analyzing our cases in relation to trauma grade, duration of incarceration, removal technique and outcome.

MATERIALS AND METHODS

A retrospective review of seven patients who presented with penile incarceration with encircling metallic objects in surgical causality of our institute from January 2002 to December 2011 was performed. The records of these patients were analyzed with respect to age, marital status, motive, object used, who applied it, duration of incarceration, trauma grade by Bhat et al., [10] [Table/Fig-1], removal technique, removal time, anesthesia used, recovery time and complications.

On admission, management of such a patient starts with history, general examination and local examination of penis to assess temperature, color, sensation, viability of constricted tissue and ability to void. Grading of penile injury was done. Analgesics, antibiotics, tetanus prophylaxis were given to all the patients. Foley's

catheterization was done in all cases. Removal technique chosen was according to grade of penile injury, duration of incarceration and type of object used. Cases of penile incarceration with non-metallic objects were excluded from the study. Evaluation of removal technique was done according to grade of injury, duration of incarceration and type of object used.

RESULTS

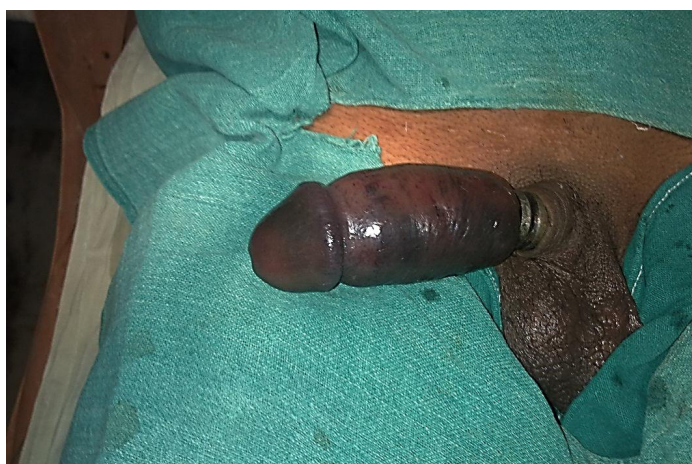
After analyzing the data of all seven patients it is found that self-sexual gratification was the most common motive (n=4), however, other motives were self-treatment for erectile dysfunction (n=1), to prolong erection (n=1) and punishment by fellow villagers (n=1) [Table/Fig-2]. Object was donned by self in five cases, by wife to prolong erection in 1 case and by fellow villagers in 1 case. As far as marital status is concerned 6 patients were married but 4 patients had not had sexual relation with their female counterparts for some time and 2 patients suffered from psychogenic erectile dysfunction. One patient was unmarried who put object by himself for autoerotic purpose as suggested by his friend. Two patients were suffered from psychogenic erectile impotence and pedophilia was found in one patient. [Table/Fig-2]. All patients presented with distal gross penile edema up to the encircling object upon the shaft

Penile Injury Grading System By Bhat et al., [10]		Revised Grading System [5]
Grade	Injuries	
Grade 1	edema of distal penis. No evidence of skin ulceration or urethral injury	Low grade Injuries
Grade 2	Distal oedema, skin and urethral trauma, corpus spongiosum compression and decreased penile sensation.	
Grade 3	Skin and urethral trauma, no distal sensation.	
Grade 4	Separation of corpus spongiosum, urethral fistula, corpus cavernosum compression, no distal sensation.	High Grade Injuries
Grade 5	Gangrene, necrosis, or complete amputation of distal penis.	

[Table/Fig-1]: Grading scales for penile incarceration

S.No.	Age	Motive	Applied by	Sexual life	Mental Status
1	45	To prolong erection	Wife	Married	Erectile dysfunction
2	42	Punishment	Fellow villagers	Married	Paedophilia
3	80	Self-sexual gratification	Self	Married (Not had sexual relationship for some time)	Normal
4	22	Self-treatment for erectile dysfunction	Self	Married (Not had satisfactory sexual life)	Erectile dysfunction
5	70	Self-sexual gratification	Self	Married (Not had sexual relationship for some time)	Normal
6	16	Self-sexual gratification	Self	Unmarried	Normal
7	52	Self-sexual gratification	Self	Married (Prisoner)	Normal

[Table/Fig-2]: Patient profile according to history



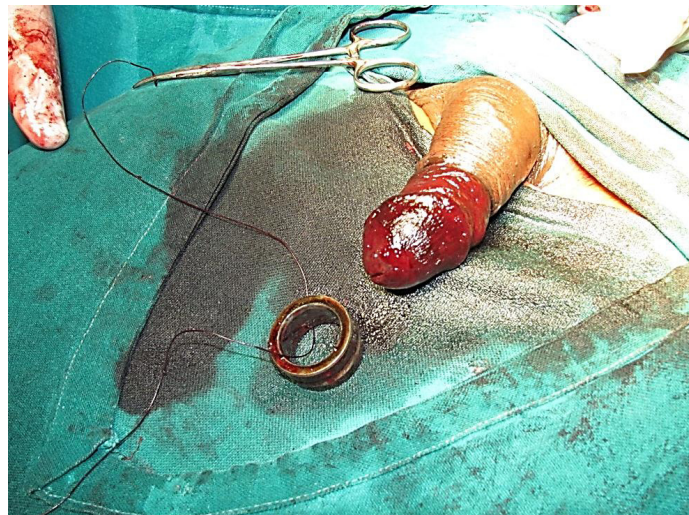
[Table/Fig-3]: Penile incarceration due to metal ring



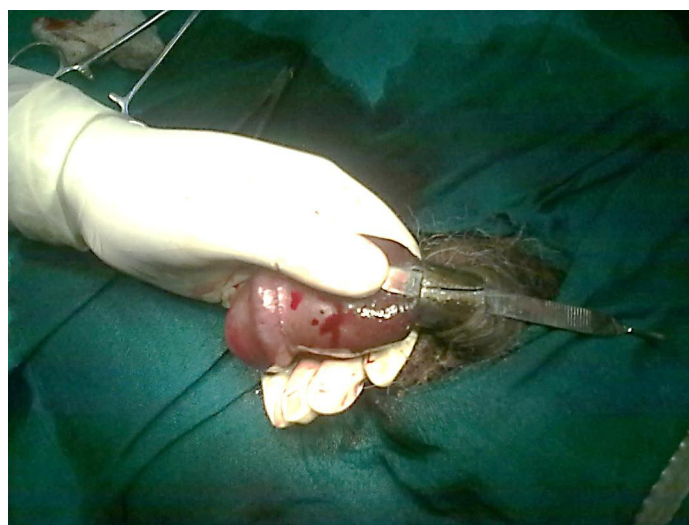
[Table/Fig-4]: Aspiration of blood from corpora cavernosa



[Table/Fig-5]: Removal of ring by String technique



[Table/Fig-6]: Final appearance after removal of ring by string technique



[Table/Fig-7]: Removal of ring by cutting device (steel saw), Knife handle

of the penis [Table/Fig-3]. The age of patients ranged from 16 to 80 years (mean 46.71 years). Duration of incarceration varied from six hours to seven days. Most of the patients presented within 24 hours, however, one patient, having a grade III injury, was presented after seven days. Five patients had a grade II injury, while the one suffered with a grade I injury.

The technique of removal chosen was according to grade of penile injury, duration of incarceration and type of object used. String technique (Vicryl no 1, Vaseline tape gauze) with glans aspiration used in three cases [Table/Fig-4-6]. Cutting devices (steel saw) were used in two cases [Table/Fig-7]. Glans aspiration with hot compression to relieve distal penile edema was used in one case. Dorsal slit and removal of edematous distal prepuce skin, removal of ring and re-approximation was done in one case. Two cases required second staged procedure due to loss of penile skin secondary to

S. No.	Object used	Dimensions of object	Duration of incarceration	Grade	Removal Technique	Outcome
1	Metal Bearing	ID - 3.5cm	6hrs	Gr.1	Aspiration tech. with hot compression	Satisfactory
2	Metal Nut	UKN	7days	Gr.3	Desloughing of gangrenous skin over penis, object removal by string technique (lubricated tape gauze),	Developed skin necrosis and urethral fistula skin grafting done and candidate for urethral reconstructive surgery, but didn't come for follow up.
3	Metal Ring	ID - 2cm	14hrs	Gr. 2	Cutting	Satisfactory
4	Metal Ring	ID - 2.5cm T - 4mm	9hrs.	Gr.2	Cutting	Minor injury to penile skin during removal
5	Metal Ring	ID - 2cm T - 8mm	20hrs	Gr.2	String Technique (Vicryl No1) with Aspiration	Absconded
6	Metal Bearing	ID - 3cm T - 2mm	18hrs.	Gr.2	Dorsal slit removal of distal prepuce skin and object re-approximation	Satisfactory
7	Metal Nut	ID - 2.5cm T - 1.5cm	18hrs.	Gr.2	String Technique (Vicryl No1) with aspiration	Developed skin necrosis, excision of necrotic tissue and reapproximation done later.

[Table/Fig-8]: Object used, type of injury, management and outcome
ID – Internal Diameter T – Thickness UKN - Unknown

Author	Object	Size	Grade	Incarceration Time	Technique
Bucy [7]	Ball Bearing	2cm ID 1.5cm T	2	8 hrs.	Cord, glans aspiration
Browning and Reed [19]	Metal Ring	UKN	3	3 hrs.	Umbilical tape glans drainage
Vahsarja et al., [18]	Loop wrench Ball Bearing	11 mm ID UKN	UKN 2	5 hrs. 24 hrs.	String, glans aspiration String, glans aspiration
Rana and Sharma [11]	3 Washer	UKN	1	14 hrs.	Spring, glans drainage
Noh et al., [8]	Metal Bearing Metal Bearing	11 mm ID 22 mm OD UKN	UKN UKN	5 hrs. 8 hrs.	String, glans aspiration String, glans aspiration
Faroqui and Meena [20]	2 Metal Rings	3.5 cm OD 2.5 cm ID	UKN	UKN	Intravenous drip, compression
Present Study	Metal Nut Metal Ring Metal Nut	UKN 2 cm ID 8 mm T 2.5 cm ID 1.5 cm T	3 2	7 days 20 hrs.	Tape Gauze Desloughing of gangrenous skin String, glans aspiration String, glans aspiration

[Table/Fig-9]: String technique and its variants
UKN- Unknown, OD- Outer Diameter, ID, Inner Diameter, T- Thickness

Author	Object	Size	Grade	Incarceration Time	Cutting Tool
Steiner [21]	Metal Nut	1 cm wide	2	8 days	Hacksaw
Bhat et al., [10]	Metal Nut Metal Nut Metal Ring	0.5 cm T 0.5 cm T 0.3 cm T	3 3 2	8 days 5 days 4 days	Hammer & Chiesel Metal Saw Metal Saw
Vahsarja et al., [16]	Loop wrench Ball Bearing	11 mm ID UKN	UKN 2	5 hrs. 24 hrs.	String, glans aspiration String, glans aspiration
Perabo et al., [4]	Wedding Ring Metal Cuff Bull Ring	UKN UKN 33 mm wide 5 mm T	1 1 1	3 hrs. Earlier in the day 3 days	Ring Cutter Metal Saw Bolt Cutter
Patel et al., [3]	2 Metal radiator clamp	UKN	2	6 months	Orthopedic wire cutter
Present study	Metal Ring Metal Ring	2 cm ID 2.5 cm ID 4 mm T	2 2	14 hrs. 9 hrs.	Metal Saw Metal Saw

[Table/Fig-10]: Non electric cutting devices
UKN- Unknown, OD- Outer Diameter, ID, Inner Diameter, T- Thickness

Author	Object	Size	Grade	Incarceration Time	Cutting Tool
Greenspan [22]	Steel Ring	UKN	2	7 hrs.	Dremmelmoto tool with grinder
Snoy et al., [19]	2 Steel brushing	UKN	3	33 hrs.	Dental drill with flat carbide disk
McLaughlin and Coyner [9]	Steel bearing	1.9 cm wide 3 mm T	1	UKN	Anspach saw with Tungsten carbide bits
Bhat et al., [10]	Ball bearing	3 cm T	3	5 days	Heavy drill
Perabo et al., [4]	Hammerhead	UKN	UKN	UKN	High speed electrical steel saw
Silberstein et al., [5]	Metal Ring on Penis & Scrotum	6.5cm OD 4.5cm ID	3 days	UKN	Dremmel rotating saw
Darby et al., [17]	7 metal rings	UKN	UKN	UKN	Midas Rex pneumatic drill

[Table/Fig-11]: Electric cutting devices
UKN- Unknown, OD- Outer Diameter, ID, Inner Diameter, T- Thickness

Author	Object	Size	Grade	Incarceration Time	Technique
Punekar et al., [23]	Hammerhead	1.5 cm T	3	14 hrs.	Needle puncture, drainage of lymph
Sinha [24]	Metal Nut	1.5 cm T	2	8 hrs.	Aspiration of 66 ml of blood
Present Study	Metal Bearing	3.5 cm ID	1	6 hrs	Aspiration of blood

[Table/Fig-12]: Pure aspiration techniques
ID, Inner Diameter, T- Thickness

Author	Object	Size	Grade	Incarceration Time	Technique
Schellhammer & Donnelly [13]	Iron pipe	UKN	5	6.5 days	Degloving of penis up to Buck's fascia
Klein & Smith [25]	Ball bearing	UKN	5	7 days	Degloving of penis up to Buck's fascia
Wasadikar [14]	Metal ring	1.4 cm ID	2	30 days	Excision up to Corpus Cavernosum
Ivanovski et al., [12]	Steel ring	3 cm OD 3 mm T	2	UKN	Wide excision of affected skin
Baruah & Bagchi [14]	Metal Ring	UKN	2	17 hrs.	Wide excision of affected skin & Reapproximation
Present Study	Metal Bearing	2.5 cm ID 1.5 cm T	2	18 hrs.	Wide excision of affected skin & Reapproximation

[Table/Fig-13]: Surgical techniques
UKN- Unknown, OD- Outer Diameter, ID, Inner Diameter, T- Thickness

necrosis, re-approximation done in one case, skin grafting done in other case. Removal time varied from 30 minutes to 100 minutes. Spinal anesthesia was used in five cases. Two cases were done under local anesthesia and sedation. Recovery time varied from two days to 21 days. One patient of grade III injury developed urethral fistula at penoscrotal junction postoperatively, and was a candidate for urethral reconstructive surgery, but did not come for follow up. Patient profile, object used, site time, grades of injury management and outcome of management are summarized in [Table/Fig-8].

DISCUSSION

Penile incarceration is a rare but serious problem. In adults strangulating objects are used for autoerotic purpose or to prolong erection while in adolescents they are used to increase erotic sensation during masturbation or as sexual curiosity. In infants and children common cause of penile strangulation is hair or thread which is used to prevent enuresis. Most authors did not highlight the cognitive state of their patients [5].

The placement of encircling metallic devices over the flaccid or partially erect penis results in the inability to remove them secondary to edema that developed due to prolonged period of genital entrapment, which leads to potential penile compartment syndrome with an initial obstruction to both venous and lymphatic outflow distal to device followed by arterial inflow obstruction, ultimately resulting in tissue ischemia and necrosis [17,19]. The time lapsed following penile incarceration, in which the patients presented at the hospital, ranging from three hours to 1 month [10,14,15,18].

Silberstein et al., [5] simplified grading system proposed by Bhat et al., [10] by dividing it into two broad categories. Low grade injuries corresponds to Grade 1-3 injuries and most of the time requires no further intervention after removal of encircled object, while High grade injuries corresponds to Grade 4,5 injuries and require surgical intervention [Table/Fig-1]. The types of constricting devices play a profound role in the degree of penile injury. It has been reported that nonmetallic constricting devices accounted for 77.7 % of high-grade penile injuries, while metallic objects accounted for only 22.22% [5]. The most severe injuries crop up from the non-metallic objects, but they can easily be removed by cutting the constricting device. On the other hand, it is difficult to remove metallic objects.

The method of choice for removal of encircling metallic object is dependent upon the grade of injury, material of the device, availability of the tools and surgeons experience. Treatment of urinary retention is a preliminary step [15]. Foley's catheter is recommended for

grade I and II trauma [15], while suprapubic catheterization is recommended for grade III-V trauma [20-25], [10,15,26]. Removal techniques can generally be divided into four groups [15]. String techniques with or without aspiration of blood from glans, cutting techniques, aspiration techniques, and surgical techniques.

String technique and its variants [Table/Fig-9]: The string technique was devised by Flatt [27] for removing rings from traumatized fingers. Bucy first used it in 1968 to remove a metal ball bearing from an incarcerated penis [7]. After relieving turgor a string is passed proximally beneath the ring, using remainder of the string penis bound tightly to the glans. The proximal end of the suture is lifted and unbound from the penis so that the encircling object is pushed gently over wrapped and molded penis. The series of steps may need to be repeated several times before the object can completely remove from penis [8,11,18]. Some authors have chosen to aspirate blood from glans before starting or during string procedure. Different author used different material as string such as thread, suture [8], umbilical tape [19], intravenous drip [20] and Vaseline gauze. String technique and its variants can effectively use in grade 1-3 injuries [15]. In present series this technique was used in three cases and Vicryl No. 1 was used as string in two cases while Vaseline tapes gauze in one case. According to our experience string technique with aspiration is highly effective and safe for removing metallic devices from incarcerated penis in low grade injuries. The key point is, the winding process should begin by passing a string through the encircling object.

Cutting devices: Cutting methods are often the first method for dividing an encircling device that cannot be removed with sequential compression. Due to diversity of encircling device various cutting devices are used by different authors. These can be 2 types: non electric cutting devices [Table/Fig-10] and electric cutting devices [Table/Fig-11]. Non-electric cutting devices like hammer and chisel [10], ring cutter [4], hack saw [23] and metal saw [4,10] are useful but they require strength to operate and they cannot cut thick metal ring. Use of various electric cutting devices like dremmel rotary tool [5,22], Anspach saw with tungsten carbide bits [9], heavy drills [10], high speed electrical steel saw [4] and pneumatic drill [17] have been reported in literature. These 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. Shielding device selected for cutting include: laryngoscope blade [5], metal tongue depressor [4], wooden tongue

depressor [9], silastic guards and poly vinyl chloride plaques. Heats produced from the metal object from friction can potentially results thermal injury which can be prevented by cool water irrigation [9,10] and water sprays [26]. Metal device is either cut in two location 180° apart [9], or by one cut and scoring of device on opposite side by using an expander tool [26]. Cutting device can be combined with corpus cavernosum aspiration so that the tumescence could be reduced to allow for easy removal of foreign body [4,10]. Grade 1-3 can be treated by this technique provided appropriate cutting tools are available [15]. In present series this technique was used in two cases, metal saw used as cutting device and knife handle used as shielding device.

Aspiration techniques [Table/Fig-12]: De-tumescence can be achieved by placement of 18-gauge needle into the corpora or glans and aspiration of congested blood from penis [15,24]. Multiple punctures of distal penis with 18-gauge needle into subcutaneous tissue drains lymph which decreases edema and aids in removal of metal ring [15, 23]. Most of the time aspiration technique is not sufficient alone and needs to be combined with aspiration or cutting technique [5]. This technique is useful in grade 2 and 3 injuries [15]. This technique was used in one case of present series.

Surgery [Table/Fig-13]: Surgical technique by dorsal slit, removal of edematous prepuce skin or degloving with circumcoronal incision, retrieval of ring and subsequent approximation can be used in grade 2-3 injuries [12,13,16,25], concurrent or delayed skin grafting can be done if defect is large due to skin excision. Advanced grade injuries can be treated with wide tissue debridement of devitalized tissue and partial thickness cutaneous graft. Penile amputation with re-implantation using microsurgical technique for grade IV and V has been suggested [28]. In case of gangrene of penis partial or total amputation of penis can be done [12].

Penis should be examined thoroughly after removal of metal ring to ascertain any vascular or irreversible tissue injury. If there is any doubt color Doppler may help in determining the vascular patency and may rule out thrombosis or rupture of vasculature [5]. Heparinization can be considered if distal pulsations are absent on Doppler study. Hospitalization and repeat examination are essentially recommended, because secondary infection and skin necrosis develop days after removal of the metal ring.

Complications are directly related to duration and grade of incarceration include: urinary retention [9,10,26], urethral stricture [10], urethral fistula [10], skin ulcerations [10]; decreased or loss of penile sensation [10,17], priapism [10,26], gangrene of penile skin and subcutaneous tissue [12], gangrene of penis [12]. Complications noted in two patients of our series were skin necrosis and urethral fistula.

Following removal of the encircling devices urethral stricture is potential complication and can be ruled out with follow-up imaging [10,26]. Long term follow-up with micturating cysto-urethrogram and uroflowmetry is necessary [16]. Psychiatric evaluation and counseling of patients against such experimental practices on their penis is also required. Follow-up is poor because of most of the patients are feeling embarrassed and do not want to disclose the incidence.

CONCLUSION

Penile incarceration with encircling devices is an unusual clinical condition and consequences can be severe. Prompt recognition, urgent decompression of involved tissue by removing encircling object is required to prevent potential complication. Numerous removal techniques have been described in literature, but every case needs individual approach depending on the patient presentation, type of encircling object and facilities available.

REFERENCES

- [1] Hoffman HA, Colby FH. Incarceration of penis. *J Urol*. 1945; 54: 391-95.
- [2] Dakin WB. Urological oddities. Los Angeles: *University of California Publishers*. 1948; p.200,202,208,212,216,218,231,232.
- [3] Patel C, Kim R, Delterzo M, et al. Prolonged penile strangulation with metal clamps. *Asian J Androl*. 2006;8:105-06.
- [4] Perabo FG, Steiner G, Albers P, Muller SC, Treatment of penile strangulation caused by constricting devices. *Urology*. 2002;59:137.
- [5] Silberstein J, Grabowski J, Lakin C, Goldstein I. Penile constricting devices: a case report, review of the literature and recommendations for extrication. *J Sex Med*. 2008;5(7): 1747-57.
- [6] Navarro HP, Moreno MJ, Lopez PC, et al. Penile Foreign Bodies. *Arch. Esp.Urol*. 2009;62(6): 501-07.
- [7] Bucy JC. Removal of strangulating object from the penis. *J Urol*. 1968; 99: 194-5.
- [8] Noh J, Taek W, Tag H, Dong DK. Penile Strangulation treated with modified string technique. *J.urology*. 2004;04.058: e33-34.
- [9] McLaughlin T, Coyner W. Removal of strangulating metal bearing from penis. *J Urol*. 1989;141:617.
- [10] Bhat AL, Kumar A, Mathur SC, Gangwal KC. Penile strangulation. *Br J Urol*. 1991;68:618-21.
- [11] Rana A, Sharma N. Masturbation using metal washers for the treatment of impotence: painful consequences. *Br. J Urol*. 1994;73:722.
- [12] Ivanovski O, Stankov O, Kuzmanoski M, Saidi S, Banev S, Filipovski V. Penile strangulation: Two case reports and review of the literature. *J Sex Med*. 2007;4: 1775-80.
- [13] Schellhammer P, Donnelly J. A mode of treatment for incarceration of the penis. *J Trauma*. 1973; 13: 171-73.
- [14] Wasadikar PP. Incarceration of penis by a metallic ring. *Postgrad Med J*. 1997; 73: 255.
- [15] Detweiler MB. Penile incarceration with metal objects: a review of procedure choice based on penile trauma grade. *Scand J Urol Nephrol*. 2001;35:212-17.
- [16] Baruah SJ, Bagchi PK, et al. An innovative surgical technique for penile incarceration injury caused by heavy metallic ring. *Indian J Urol*. 2009;25(2):267-68.
- [17] Darby JC, David M. Genital incarceration: an unusual case report. *Can Urol Assoc*. 2010;4(3):E76.
- [18] Vahasari VJ, Hellstorm PA, Serlo W, Kontturi MJ. Treatment of penile incarceration by the string method: 2 case reports. *J Urol*. 1993; 149: 372-73.
- [19] Browning WH, Reed DC. A method of treatment for incarceration of penis. *J Urol*. 1969; 101: 188-190.
- [20] Farooqui MR, Meena RS. Penile strangulation by metallic rings. *Indian J Surg*. 2011;73(5): 359-60.
- [21] Steiner BE. Strangulation of penis by metallic nut (letter to editor). *Int Surg*. 1978; 63: 17.
- [22] Greenspan L. Tourniquet syndrome caused by metallic bands: a new tool for removal. *Ann. Emerg. Med*. 1982; 11: 375-78.
- [23] Punekar SV, Shroff PR, Vaze ML. An unusual case of strangulation of penis by metal hammer head (a case report). *J Postgrad Med*. 1978; 24: 58-9.
- [24] Sinha BB. Penile incarceration by ametallic object. *Br J Surg*. 1988; 75: 33.
- [25] Klein FA, Smith VS. Treatment of incarceration of penis by tempered steel bushings. *J Emerg Med*. 1987; 5: 5-8.
- [26] Snoy FJ, Wagner SA, Woodside JR, Orgel MG, Borden TA. Management of penile incarceration. *Urology*. 1984; 24: 18-20.
- [27] Flatt AE. The care of minor hand injuries. 2nd ed. St Louis: *CV Mosby*. 1963; 2:262-63.
- [28] Harris DD, Beaglier MA, et al. Use of a tunnel following reimplantation of an amputated penis. *Urology*. 1996;48:628-30.

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