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Using a fretsaw in treating chronic penial incarceration: A case report

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Abstract

BACKGROUND

Penial incarceration (PI) is a rare situation. It is usually caused by a foreign object which strangulates at the base of the penis. PI may derive from pranks, sexual demand, mental disease, or intention to prohibit urinary disease. Generally, these situations are emergent and immediate treatments are needed. Cases of chronic PI are less reported, and their treating methods are yet to be discussed.

CASE SUMMARY

We reported a case on treating a 73-year-old male who had PI with a metallic hoop for three months. After multidisciplinary consultation, the operation was performed successfully with the help of a fretsaw. Despite the chronic strangulation, the prognosis of the patient was satisfying. To the best of our knowledge, this case was rare and precious as it featured the longest strangulating time, which might enlighten the treating process of future PI cases. Also, we have reviewed and summarized major published cases to encapsulate appropriate approaches when facing diverse strangulation situations.

CONCLUSION

The selection of surgical tools depends on the material of the strangulating objects, the availability of equipment, and the severity of the penial damage. The urination function may not be affected after three months of incarceration as in our case, whilst prudent preoperative measures and multidisciplinary evaluations are always essential. Although using a fretsaw is comparatively slow, it is safe and feasible to treat metallic penial incarceration.

Key Words: Penial incarceration; Chronic penial strangulation; Fretsaw; Surgical treatment; Literature review; Case report

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Core Tip: Penial incarceration (PI) is a rare clinical situation. We report a case of chronic PI, where a multidisciplinary task force was established for surgical strategy planning. We adopted the orthopedic fretsaw to split the metallic hoop. The patient reported no complications one year after the surgery. As the treatment of PI has not been summarized yet, we also performed a mini review of the literature regarding the treating approaches under certain circumstances. This case was unique because it featured the longest reported strangulating time, and it offered some first-hand experience on treating chronic penial incarceration.

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INTRODUCTION

Penial incarceration (PI) is a rare clinical situation that was firstly reported in 1755[1]. It is usually caused by a foreign object that strangulates at the base of the penis[2]. PI may derive from pranks, sexual demand, mental disease, or intention to prohibit urinary disease[1]. In most cases, the strangulating objects would block venous and arterial blood supply and result in ischemic necrosis. Hence, PI usually requires immediate intervention to save the penis function[1,3]. Depending on the material and hardness, strangulating objects can be either metallic or non-metallic[4]. Studies report that PI is usually caused by non-metallic foreign objects in younger patients, such as hair and rubber bands. In contrast, in elderly patients, metallic foreign objects are more likely to be found[5].

Herein, we report a rare case of a patient with chronic PI for three months. The strangulation was treated by operation successfully, and the patient's penial function was not affected. Published approaches on evaluating and treating PI are reviewed, and our experience on this case is shared.

CASE PRESENTATION

Imaging examinations

No specific imaging examination was taken for diagnostic purposes as the diagnosis was not ambiguous.

Laboratory examinations

Nothing abnormal was shown in the laboratory examinations.

Physical examination

Physical examination demonstrated a swollen penis at the distal end of the metallic ring, no skin necrosis or numbness was reported, nor stinky odor was smelt. This copper hoop was 40 mm in the external diameter, with a 10 mm width and a 2 mm thickness (Figure 1).

A close physical examination found that the metallic hoop could be rotated slightly at the incarceration location. However, it could not be removed directly whatsoever. The patient's vital sign was stable.

Personal and family history

The patient had no markable personal and family history.

History of past illness

The patient reported multiple comorbidities, including diabetes, high blood pressure (up to 190/110 mmHg), and coronary heart disease with four stents implanted. The patient took aspirin and clopidogrel routinely for secondary prevention purposes.



Figure 1 Preoperative view of the penis.

History of present illness

The patient reported that he "accidentally" put the copper hoop in his penis three months ago, and it was challenging to be taken off. As there was no acute pain, bleeding, or any other uncomfortable symptoms at that moment, he decided to do the self-observation rather than visit the emergency department. During his observation period, he found that his penis gradually became swollen, and thereafter the urination gradually became arduous. After three-mo-long consideration, he decided to visit the outpatient department of our medical center on his own.

Chief complaints

A 73-year-old man visited the outpatient department of our hospital with a copper hoop strangulating around the base of his penis.

MULTIDISCIPLINARY EXPERT CONSULTATION

Aspirin and clopidogrel had been ceased seven days before the operation. Both the cardiology department and anesthesia department regarded the risk to anesthesia as acceptable for surgery. Firefighters stated that they had no experience in handling such cases.

Dentists suggested that the fixed dental drill might be an alternative, as they had previously tested its efficiency and feasibility on a stainless-steel nut. It could cut a 1 mm deep gap on the nut within 25 s, let alone the softer copper hoop in this case. However, since the head of the dental drill was easily destructed, this plan was eventually abandoned.

Considering the familiarity with available equipment in the operating room, we also invited several scrubbing nurses for surgical instrument preparation. The fretsaw, which had been commonly used in the field of orthopedics and neurosurgery, was recommended.

FINAL DIAGNOSIS

The final diagnosis of the presented case is chronic PI with a metallic hoop.

TREATMENT

We wrapped the distal penis with a bandage preoperatively to alleviate regional edema and placed a thin catheter between the penis and the hoop as a retraction. The catheter was pulled out intraoperatively, and then a condom was cautiously placed. Nevertheless, because of the edema of the prepuce, we failed to take the hoop off by hand, even with lubrication.

Therefore, penile aspiration was performed to reduce the edema. Meanwhile, we exploited a pincher to fix the hoop, an intestinal spatula to protect the underlying skin, as well as sterile water for cooling secondary heat damage. A video clip of the surgical procedure could be found online as the *Supplementary Material*. The foreign object was finally removed after 100 min of fretsaw cutting (Figure 2). There was scarcely any bleeding during the surgery. A urinary catheter was indwelled in case of temporary dysuria. The catheter was withdrawn and the patient was discharged in good condition two days after surgery.

OUTCOME AND FOLLOW-UP

There were no complications like dysuria, erectile dysfunction, urinary irritation, or urethral fistula through telephone follow-up on the exact time of one month and one year after surgery.

DISCUSSION

PI is an urgent situation. If treated untimely, it can result in devastating consequences, as the persistent constriction might lead to genital vascular occlusion, further causing skin loss, urethral-cutaneous fistula, erectile dysfunction, and even penile loss[6]. Given that no particular tool has been designed for relieving the strangulation, and occasionally the patient is too old with severe comorbidities, a multidisciplinary team, sometimes including firefighters, physicians, and scrubbing nurses, is suggested to be established.

Albeit cases of penial strangulation and its treatments had been sporadically reported, there are no universal treating protocols due to the differences in patients' status, strangulating objects, and medical conditions. Various objects could induce the strangulation of the penis. Based on the material, they could be roughly classified as metallic and non-metallic[7]. Trivedi *et al*[3] suggested that the duration of incarceration was an essential factor affecting the prognosis. Namely, suppose the penile strangulation cannot be relieved in time, it may lead to irreversible ischemic necrosis, gangrene of the penis, even penile self-amputation, urethral fistula, and penile erectile dysfunction.

As far as we are concerned, the penis injury can be divided into different grades, varying from edema, skin loss, urethral fistula to complete amputation[8], that is: Grade 1: simple distal prepuce edema without penile skin ulcer or urethral injury; Grade 2: skin injury and cavernous compression, penile prepuce edema, accompanied by decreased sensation, but no urethral injury; Grade 3: urethral injury, loss of distal penile sensation, but no urinary fistula; Grade 4: the rupture of the cavernous urethral body and result in urinary fistula, further compression of the penile cavernous body with loss of sensation; and Grade 5: necrosis or spontaneous disconnection of the distal end of the penis. In our experience, anti-infection and decompression are basic principles to deal with such cases. At the same time, the severity of strangulation is mainly related to the foreign object itself, such as hardness, size, and smoothness. More specifically, when the surface between the incarcerating object and the penis is not smooth or too tight, the penis would present acute edema, ulcer, and even necrosis. However, long-term strangulation may only cause edema of the prepuce and local skin superficial ulcer when the incarceration is not severe, rather than penial necrosis and urinary fistula. This situation might be partial because, at this time, penial and urethral cavernous bodies are shielded from edematous skins.

Generally, the treatment attempts we take should minimize the trauma to local tissues[9]. Applying lubricating oil with appropriate traction to remove foreign objects directly is preferred. For those with severe incarceration and noticeable swelling, penis piercing could be performed. The piercing sites could be either the edematous skin, the subcutaneous skin, or the penial and urethral cavernous body when necessary[10].

For less-likely removable strangulating objects, direct cutting is recommended. Under these circumstances, the hardness and thickness of the material should be taken into consideration. For non-metallic incarcerations, such as hair tourniquet syndrome[11], rubber bands for disease prevention[2], plastic bottles for sexual entertainment[12], or seal rings[13], the treatments are reported to be comparatively more straightforward. However, as the strangulating objects had a certain degree of deformability, it is crucial to restore the deformed penis after removing the strangulating objects. Due to the metallic hoop's hardness and thickness, treatments on metallic incarcerations are

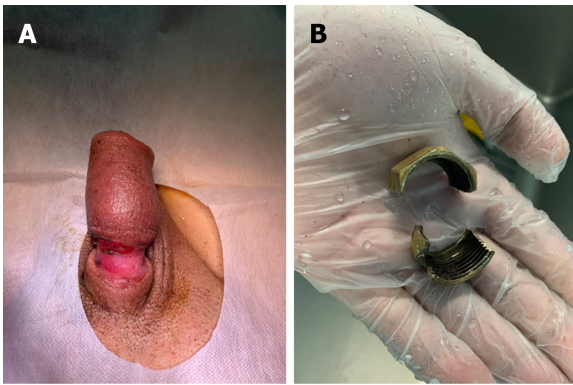


Figure 2 A: Penis after the removal of strangulation; B: A view of the cut hoop.

more complicated. Previous literature mentioned various surgical tools, mostly from orthopedics and dentistry, such as motor-operated emery wheel machine, metal cutter, grinder, hacksaw, fretsaw, industrial-grade steel bolt cutters, and marble cutting tool [4,14,15]. In extreme cases such as strangulation by axletree[16] or hammerhead, cautious planning is needed before violent cutting. The heat originating from the persistent cutting procedure could cause burn injury even with additional irrigation. Subsequently, the operation might be performed in a de-gloving way[16], which can be decomposed into three steps: (1) De-gloving the skin distal to the strangulated area till the coronal part; (2) Moving the constrictive object towards the distal end; and (3) Suturing the edge of the skin back.

Extra operations are required in exceptional situations, such as PI with shallow ulcerations or urinary tract fistulae. Ulceration indicates the necrosis of penial skin or partial corpus cavernosum. Thereafter, the necrotic part needs to be debrided first. However, if the wound defect is too large to be sutured, a skin graft with radial forearm flap neophallus might be required. If deep necrosis is found in the urethra, partial or entire penectomy might be necessary[9,17,18].

There were three main benefits of using a fretsaw in this case. First, compared with a dental drill and other electric equipment, the initiation, cessation, and alteration of cutting direction could be adjusted more responsively when deploying a fretsaw. Second, there would be no inertia and electric sparks because hands drove the fretsaw. Last but not least, because the cutting direction was from the inner layer to the outer surface, the accidental injury caused by the damage of the metal structure would be avoided.

Nevertheless, the cutting efficiency of using a fretsaw is comparatively low, as it is purely powered by hands. Continuously cutting for several minutes is tiring, and thereafter loss of controllability might occur. Same as other methods, thermal damage could not be avoided. Hence, an assistant must continuously spray normal saline with a syringe to cool the metal surface.

Several limitations should be noted. First, due to the rarity of PI, more cases are awaiting to be summarized to increase credibility and generality. Specific consideration should be taken regarding patient status, the degree of edema, and the material of the incarcerating object. Systematic reviews are called for to establish higher-level evidence. Second, specific steps, in this case, could be optimized, such as a bacterial culture could be performed in case of severe postoperative skin infection, and the postoperative daily observation of the wound might be better recorded.

CONCLUSION

In conclusion, the selection of cutting tools depends on the strangulating object and the availability of equipment. Meanwhile, the concrete operation also relies on the severity of penial damage. The urination function may not be affected after three months of incarceration like in this case, but prudent measures and sufficient preparations should be taken preoperatively. Even though using a fretsaw in treating PI is comparatively less efficient, it is feasible and safe.

REFERENCES

- 1 **Ivanovski O**, Stankov O, Kuzmanoski M, Saidi S, Banev S, Filipovski V, Lekovski L, Popov Z. Penile strangulation: two case reports and review of the literature. *J Sex Med* 2007; **4**: 1775-1780 [PMID: [17888068](#) DOI: [10.1111/j.1743-6109.2007.00601.x](#)]
- 2 **Yoshida T**, Watanabe D, Minowa T, Yamashita A, Miura K, Mizushima A. Penile strangulation intentionally using a rubber band to prevent the development of penile cancer. *Urol Case Rep* 2019; **27**: 101003 [PMID: [31467859](#) DOI: [10.1016/j.eucr.2019.101003](#)]
- 3 **Trivedi S**, Attam A, Kerketa A, Daruka N, Behre B, Agrawal A, Rath S, Dwivedi US. Penile incarceration with metallic foreign bodies: management and review of literature. *Curr Urol* 2013; **7**: 45-50 [PMID: [24917757](#) DOI: [10.1159/000343554](#)]
- 4 **Patel NH**, Schulman A, Bloom J, Uppaluri N, Iorga M, Parikh S, Phillips J, Choudhury M. Penile and Scrotal Strangulation due to Metal Rings: Case Reports and a Review of the Literature. *Case Rep Surg* 2018; **2018**: 5216826 [PMID: [29780654](#) DOI: [10.1155/2018/5216826](#)]
- 5 **Lu Y**, Tan TW, Lau KW. Successful removal of a penoscrotal constricting ring in a 49-year-old male. *Asian J Urol* 2017; **4**: 262-264 [PMID: [29387560](#) DOI: [10.1016/j.ajur.2017.01.003](#)]
- 6 **Puvvada S**, Kasaraneni P, Gowda RD, Mylarappa P, T M, Dokania K, Kulkarni A, Jayakumar V. Stepwise approach in the management of penile strangulation and penile preservation: 15-year experience in a tertiary care hospital. *Arab J Urol* 2019; **17**: 305-313 [PMID: [31723448](#) DOI: [10.1080/2090598X.2019.1647677](#)]
- 7 **Xu T**, Gu M, Wang H. Emergency management of penile strangulation: a case report and review of the Chinese literature. *Emerg Med J* 2009; **26**: 73-74 [PMID: [19104114](#) DOI: [10.1136/emj.2008.062877](#)]
- 8 **Bhat AL**, Kumar A, Mathur SC, Gangwal KC. Penile strangulation. *Br J Urol* 1991; **68**: 618-621 [PMID: [1773293](#) DOI: [10.1111/j.1464-410x.1991.tb15426.x](#)]
- 9 **Campbell K**, Terry R, Yeung L. Surgical reconstruction and follow-up of penile strangulation injury. *Urol Case Rep* 2018; **19**: 6-8 [PMID: [29888174](#) DOI: [10.1016/j.eucr.2018.02.005](#)]
- 10 **Osman I**, Muñoz AM, Lozano JM, Ortega CJ, Cruz N, Medina RA. Penile incarceration secondary to a ring. *Urol Int* 2010; **85**: 245-246 [PMID: [20714123](#) DOI: [10.1159/000318680](#)]
- 11 **Acimi S**. Penile strangulation by hair. *Pediatr Surg Int* 2014; **30**: 729-732 [PMID: [24879557](#) DOI: [10.1007/s00383-014-3523-9](#)]
- 12 **Agarwal AA**, Singh KR, Kushwaha JK, Sonkar AA. Penile strangulation due to plastic bottle neck: a surgical emergency. *BMJ Case Rep* 2014; **2014** [PMID: [25427935](#) DOI: [10.1136/bcr-2014-207338](#)]
- 13 **Valderrama-Illana P**, Abad-Menor F, Puche-Sanz I, Pareja-Vilchez M, Cozar-Olmo JM. Penile Strangulation Caused by a Seal Ring. *Arch Sex Behav* 2016; **45**: 3-4 [PMID: [26502282](#) DOI: [10.1007/s10508-015-0649-3](#)]
- 14 **Li C**, Xu YM, Chen R, Deng CL. An effective treatment for penile strangulation. *Mol Med Rep* 2013; **8**: 201-204 [PMID: [23652299](#) DOI: [10.3892/mmr.2013.1456](#)]
- 15 **Singh I**, Suman D, Gupta S, Garg G. Penile strangulation by multiple steel ball bearings: desperate situation-desperate measures. *BMJ Case Rep* 2018; **2018** [PMID: [30344163](#) DOI: [10.1136/bcr-2018-227586](#)]
- 16 **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 [PMID: [22924045](#) DOI: [10.1155/2012/532358](#)]
- 17 **Saiad MO**. Penile injuries in children. *Turk J Urol* 2018; **44**: 351-356 [PMID: [29932405](#) DOI: [10.5152/tud.2018.92231](#)]
- 18 **Zaghib S**, Chakroun M, Saadi A, Boussaffa H, Bouzouita A, Derouiche A, Ben Slama MR, Ayed H, Chebil M. Severe penile injury due to condom catheter fixed by a rubber band: A case report. *Int J Surg Case Rep* 2019; **64**: 120-122 [PMID: [31634783](#) DOI: [10.1016/j.ijscr.2019.10.009](#)]



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