

Penile incarceration with metallic objects: two cases with review of literature

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Introduction

Incarceration of the penis by foreign bodies has been reported sporadically [1]. The application of these devices is generally intentional while being rarely accidental and usually done for enhancement of sexual response [2, 3], self treatment of erectile dysfunction [4, 5] or secondary to psychiatric disturbances [6]. The largest series was published by Dakin from U.S.A in 1755 [1]. Men, mostly between the ages of 15–55 years, were involved in these perverted acts [1]. The patient may present simply with either oedema of the penile skin or gangrene of the penis depending on the time lapse. Early intervention therefore, is key to successful management with minimal or no morbidity.

We report two cases of patients with sex anxiety, who presented with incarceration of the penis by metallic objects.

Case reports

Case 1

A 30 year old male presented with an incarcerated penis (Figure 1). He had attempted masturbation through a metallic bolt eighteen hours ago and had been doing so for years besides leaving the bolt attached to the penile shaft. He said he kept it attached a little longer on the occasion of his presentation until he could no longer remove it manually. There was gross swelling, congestion and blistering of the distal penile shaft (Figure 2). He was in severe pain due to urinary retention and the bladder was palpable up to the umbilicus. The patient was married and divorced.



Figure 1a,1b. 1a - Case 1 with penile incarceration secondary to a heavy metallic bolt. Note the distal penile edema, severe congestion and skin changes. 1b - After removal of the metallic bolt.

Case 2

The second patient was a 31 year old unmarried, homosexual male who also presented in the emergency room with complaints of a strangulated penis. He said he and his partner were in the habit of strangulating their respective penises with a metallic wire with progressive tightening of the wire (Figure 2a). They acquired this habit after watching pornographic movie clips. Previously he had had no difficulty in removing the wires but this time, he had been unable to remove it leaving the wire in place for the past 3 days. There was gross distal penile oedema with deep ulceration below the wire (Figure 2b). He had not passed urine for six hours despite having an urge to micturate.

Both the patients were injected with diclofenec sodium and tramadol for analgesia and antibiotics were given as per hospital policy. In the operating theatre urinary catheterization was unsuccessful in both. 2% Xylocaine jelly was applied for lubrication and multiple needle punctures were undertaken to release the interstitial fluid.

Further treatment of case 1 included the placement of a

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Figure 2a,2b. 2a-Case 2 with penile incarceration secondary to a constricting tight metal wire with gross edema of penile shaft. 2b- Metallic wire at the root of penis

hot mop over the penis, to lessen the oedema for 30 minutes, with intermittent cessation. Later the metal bolt was pushed distally and removed with the aid of xylocaine jelly lubrication. He passed urine soon after. His skin ulceration healed without further urethral complications.

In case 2, the patient was sedated with midazolam and the wire was cut using a metallic wire cutter. The patient passed urine with no apparent urethral fistulisation. There was a deep seated ulcer over the penile shaft which healed with use of daily dressings in six weeks. At one year follow up, he continued to remain well.

Both men were later referred to a psychiatrist who diagnosed a sexual anxiety disorder for which treatment was commenced.

Discussion

Incarceration of the penis is rare. The patient presents with signs and symptoms depending on the duration of entrapment of the penis. Initially the venous and lymph drainage is obstructed, but the arterial flow continues, leading to progressive oedema of the penile skin. Later the arterial flow is also compromised resulting in various complications such as urinary retention, urethral stricture, urethral fistula, skin gangrene, desquamation of the skin, formation of bullae, priapism, reduced skin sensation, gangrene of the penile

epidermis and subcutaneous tissue, and tissue incision by metal objects [7,8,9,10]. Early intervention is therefore the key to successful treatment. Depending on the condition of the penis at the time of presentation, Bhat et al. have classified the penile incarceration into five grades (Table 1) [7]

Several innovative techniques have been devised and proposed by various authors which are broadly divided into four groups: [11]

- a) The string technique and its variants, with and without aspiration of blood from the glans penis.
- b) Aspiration techniques
- c) Cutting devices
- d) Surgical intervention

The treatment techniques applied depend on the grade of trauma. The string and aspiration techniques have been applied for grades 1-3 injury and surgery is generally reserved for grade 4-5 injuries.

The string technique (string cord, umbilical tape) was first described by Flatt [12] for removing the constricting ring from the finger. Later Detweiler and Perkins [11] used latex in a similar way and described it as the wrapping technique. Yet others like Kumar and Gupta [13] used tape gauze for the same purpose, including application of intravenous drip tubing circumferentially from the tip of the penis to its base. The basic principle behind this technique is to provide equal and sustained compression over the whole length of the penis to reduce skin oedema. In the aspiration technique some of the blood is aspirated from the glans and shaft of the penis to achieve detumescence.

The task becomes more challenging when the aforementioned techniques fail. The object is then cut apart depending on the availability of the cutting device such as a saw, cutting tong, high speed drill, hammer, chisel or a Dremel Moto tool etc [5,7,14]. The use of a drill for cutting the object generates much heat which can be injurious to the penis and hence copious amounts of ice water should be used for irrigation [5, 14].

Surgery includes degloving up to Buck's fascia or

Grade 1	Distal oedema only
Grade 2	Distal oedema, skin and urethral trauma, corpus spongiosum compression, 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
Grade 5	Gangrene, necrosis, or distal penile amputation

corpus cavernosa to reduce the effective diameter of the penis, debridement of the devitalised tissue followed by skin grafting [7,9,15]. In some cases with grade 4 and 5 injuries, penile amputation and microsurgical re-implantation has also been proposed [8,9]. Urethrocutaneous fistula and urethral stricture may require reconstruction.

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Key points:

- ☛ Impacted constricting devices around the penis used for sexual gratification require urgent treatment to prevent penile gangrene.
- ☛ A combination of needle puncture, graduated compression of the penile shaft and removing the constricting object restore penile blood flow.
- ☛ There is usually an underlying mental disorder which requires specialist attention.

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