

Penile strangulation: report of two unusual cases

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ABSTRACT

We report two cases of penile strangulation that presented to our emergency department. In the first case, a 60-year-old man, the object of strangulation was a metallic ring that was extricated using an orthopaedic cutter in the operating theatre. The patient recovered uneventfully. In the second case, a 77-year-old man, the object of strangulation was a plastic bottle, which was extricated using surgical instruments in the emergency department, but the patient subsequently developed postobstructive diuresis. The first case illustrates the difficulty that may be encountered in this delicate yet urgent situation, while the second case reports a rare complication.

Keywords: obstructive uropathy, penis, penile strangulation, postobstructive diuresis, urethrocutaneous fistula

Singapore Med J 2009;50(2):e50-e52

INTRODUCTION

There are sporadic reports of penile strangulation in the medical literature.⁽¹⁻⁹⁾ This condition is not common, but it is certainly an urological emergency as prompt removal of the constricting object and the decompression of the penis are required to prevent long-term complications. We report two cases. The first case illustrates the difficulty that may be encountered in this delicate yet urgent situation, while the second case reports a rare complication.

CASE REPORTS

Case 1

A 60-year-old man presented to the emergency department with the problem of penile strangulation. He had inserted a metallic ring over his penis and subsequently was unable to remove it due to progressive swelling. Physical examination revealed the penile shaft to be oedematous (Fig. 1). Attempts were made to cut the ring in the emergency department using a ring cutter with the patient under procedural sedation (Fig. 2). This was unsuccessful as the ring cutter could not cut through the ring. The local fire department (Singapore Civil Defence Force) was subsequently activated but was unable to assist as



Fig. 1 Case 1. Photograph shows a metallic ring at the base of the penile shaft.



Fig. 2 Case 1. Photograph shows the attempt to cut the metallic ring with a ring cutter.

they could not find any tool suitable for removing the metallic ring. The on-call urologist was then consulted and the patient was sent to the major operating theatre. The metallic ring could not be dislodged even after aspirating 50 ml of blood from the corpus carnosum (with a butterfly needle). After consultation with the orthopaedic surgeon on call, a MIDAS REX METAL® cutter was deployed. The metallic ring was cut on two sides. The patient made an uneventful recovery.

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Case 2

A 77-year-old man presented to the emergency department with the chief complaint of gross haematuria and difficulty in micturition. He had multiple comorbidities, which included ischaemic heart disease with ejection fraction of 20% measured with a Sestamibi scan in January 2005 and chronic atrial fibrillation on long-term warfarin. Initially, he was not very forthcoming with the history of his chief complaint at the emergency department. On further questioning by the inpatient team, it was revealed that he had pushed a 1.5 L plastic bottle over his penis more than a week ago. 2–3 days after the bottle was lodged, he managed to cut away most parts of the bottle. However, the neck of the bottle could not be removed from the base of the penis, despite the copious use of soap. He did not seek any medical attention until the consultation at our emergency department. The reason for the delay was unknown. Clinical examination revealed a deeply-engorged penis with the neck of the plastic bottle stuck at the base of the penis. The overlying penile skin was excoriated and friable. The patient was given procedural sedation and the neck of the plastic bottle was cut using surgical scissors. The patient was catheterised, and a total of 1.0 L of urine was drained. The patient was then admitted to the general ward under the care of the urology department. A psychiatric review was sought, and the differential diagnoses of psychotic depression, abnormal grief and dementing process with sexual disinhibition were made. The patient was well immediately after the removal of the constricting bottle but developed postobstructive diuresis in the ward. The inpatient fluid balance chart showed a urine output of 5.8 L over a period of 42 hours. On admission, he had a creatinine level of 188 $\mu\text{mol/L}$ as compared to a baseline of 128 $\mu\text{mol/L}$ (according to hospital medical records). Serial electrolyte levels showed progressive hypokalaemia which was attributed to the postobstructive diuresis. He was adequately hydrated orally and intravenous potassium replacement was started. On the third day of admission, the patient went into cardiopulmonary arrest. He was intubated and resuscitated. Despite resuscitative efforts, there was no return of spontaneous circulation. He was pronounced dead and referred to the coroner, who certified the cause of death as ischaemic heart disease.

DISCUSSION

There are numerous reports of penile strangulation in the medical literature.⁽¹⁻⁹⁾ In most cases, the act is performed to heighten erotic stimulation.⁽¹⁰⁾ The constricting effect of the foreign body increases the engorgement of the

penis. The various case reports illustrated that patients can present either acutely⁽¹⁻⁸⁾ or over a period of time after the strangulation has occurred.⁽⁹⁾ In reported cases of penile strangulation, many required special equipment and heavy armamentarium for the culprit object to be extricated.⁽²⁻⁹⁾ Equipment used included an iron saw,⁽⁵⁾ pliers,⁽⁷⁾ a high-speed diamond-tipped dental drill⁽⁸⁾ and orthopaedic equipment.^(5,7) In a few cases, the corpus cavernosum had to be aspirated so that the tumescence could be reduced to allow for the easy removal of the foreign body.^(1,2,7) Another ingenious method has been described where the constricting object is removed by manual decompression of the penis.^(6,7) In the report by Gupta et al, the penis was compressed by an intravenous drip set tube applied circumferentially, starting from the tip of the penis to its base in order to act as an even compressive tourniquet, eventually allowing for the removal of the strangulating object.⁽⁶⁾

There are local as well as systemic complications that can occur in penile strangulation. Local complications can be minor; they include venous engorgement due to impaired venous return, and the necrosis of penile skin from prolonged pressure which may require skin grafting. More significant local complications include penile gangrene from prolonged vascular ischaemia which may require amputation as a life-saving measure, and the formation of urethrocutaneous fistula.⁽¹¹⁾ Systemic complications are less well documented in the literature. Renal impairment from the obstruction is one such complication.⁽¹²⁾ Diuresis following the relief of the obstructive uropathy can occur, as illustrated by our case report. This has not been reported previously. There is a need to be vigilant even after the relief of the obstruction, as shown in the second case.

In conclusion, penile strangulation, though uncommon, can be challenging to manage. As the constricting devices involved are very variable, the clinician needs to be creative in his attempts to extricate the foreign bodies, and industrial strength devices should be deployed if necessary. The engagement of non-medical staff in the management of this condition, such as the local fire department⁽⁷⁾ and hospital carpenter,⁽⁵⁾ should be explored. Management should also include a thorough assessment of the lower genitourinary tract with the aim to reduce structural complications. Diversion of urine with the use of a suprapubic catheter may be necessary as a temporising measure to allow the structural injury to heal or before definitive reconstruction can be done. Patients with multiple comorbidities should be monitored more closely for systemic complications.

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