

# Penile Strangulation by Metal Hammer Head

## Abstract

Sexual gratification using various constricting devices over the penile shaft has been described. We report two adult males who used metal hammer head to achieve sexual gratification and presented with penile incarceration 10 and 4 hours after the attempt. We describe the successful usage of aspiration and string technique under local anesthesia in extricating the metal hammer head without the need for any other operative intervention.

## Introduction:

The practice of applying constricting devices around the penis for increasing sexual performance has been described in the

literature.<sup>1</sup> Timely intervention is required in order to save the phallus from potentially serious complication of ischemia. Penile incarceration injury from metallic and nonmetallic objects has been reported throughout the world since 1755.<sup>1-3</sup> We re-report two patients using metal hammer head where we adopted multiple procedures to successfully extricate it without injuring the penis and obviated the need for complex operative

interventions.

## Case report:

Two patients came to our institute with attempted masturbation through the hole of a metal hammer head. At presentation, they had incarceration of penis at the root, with grossly edematous penile shaft distal to the constriction (Fig. 1), corresponding to Grade II (low grade) penile injury.<sup>4</sup> They had no retention of urine. The first was a 55 year old man, married for 28 years, with seven children, presenting 10 hours after the attempt and the second was a 27 year old unmarried man, presenting after four hours to the emergency medical services. They had no psychological problem any time before. The metal hammer was 5 x 3 inch long in case 1 (Fig. 1A) and 4 x 3 inch long in case 2 (Fig. 1B). In both the cases, under local anesthesia, multiple needle punctures were performed in the edematous tissue to reduce edema and corporal aspiration of blood to reduce the erection. String technique using 6F infant feeding tube, under spinal anesthesia was used to extract the metal hammer head in both patients and extrication was successful (Fig. 2). There was no urethral injury or tissue loss. Per urethral Foley's catheter was kept for 48 hours. There was a small patch of superficial skin necrosis on dorsal aspect which subsequently healed with second intention, in the first patient. Post-operative recovery was uneventful. Psychiatric evaluation was normal in both patients; they were counseled and both patients are on regular follow-up with normal erectile function and urinary stream at the end of one year.

## Discussion:

Penile incarceration from encircling metallic and nonmetallic objects has been reported in literature worldwide since 1755. The largest series reported is by Daikin from USA in 1948.<sup>1</sup> Various metallic strangulating objects like wedding ring, metal plumbing cuff, bullring, hammer-head and plastic bottleneck have been reported in literature.<sup>2,3</sup> Patients place these objects for erotic purpose, to increase sexual performance, as self-treatment for erectile dysfunction or in psychiatric disturbances.<sup>4</sup>

Patients present to the emergency department at widely diverse times after penile incarceration sometimes with serious ischemic complications of penile strangulation. Similar cases have been reported by Punekar et al and Perabo et al.<sup>2,6</sup> Placement of metal hammer head over the flaccid or partially erect penis results in an inability to remove secondary to edema following prolonged entrapment, which leads to a 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. Penile injury grading system according to Bhat et al classifies injuries into grades I-V. It was subsequently simplified by Silberstein et al into low (I-II) and high (III-V) grade injuries.<sup>4</sup> Penile incarceration with metal hammer head is a true surgical emergency and its treatment can generally be divided into four groups - aspiration techniques, string technique and its variants, with or without aspiration of blood from the glans, cutting devices, and surgery. The first step is treatment of urinary retention per urethral catheterisation in grades I and II and supra pubic catheterisation in grades III-V. Both our patients did not have urinary retention.<sup>2-4</sup> Aspiration technique utilizes multiple punctures of the distal penis with 18-gauge needles into the subcutaneous tissue to drain lymph with subsequent decompression. Aspiration of blood from corpora assists in achieving detumescence which helps in retrieval of constricting object. The string technique involves string cord (or umbilical tape), which is passed proximally under the object and wound tightly around the penis distally toward the glans. The cord/ tape proximal to the ring are grasped; unwinding it from the proximal end pushing the object distally.<sup>4</sup> The use of infant feeding tube as a string provided the smoothness required for the string and caused only minimal superficial skin necrosis in one of the patients, which healed within a week. String technique with aspiration is highly effective in low grade injuries as also observed by Shukla et al.<sup>2,4</sup> Cutting devices can be used to extricate this metal hammer head. The major disadvantage is the need for an engineering department in the hospital, which would not be stocking these devices regularly. Hence, manufacturing these custom-made devices, would take hours of precious time and more so during odd working hours. This is why we adopted aspiration followed by string technique in our patients and extrication was successful. The management of such patients does not end with successful removal of foreign bodies. They need psychiatric evaluation and also regular follow-up to assess for erectile function, urethral stricture or fistula and Peyronie disease.<sup>2,4</sup>

#### Conclusion:

Penile incarceration using constricting devices is a rare and peculiar urologic emergency with potentially severe clinical consequences including loss of organ. With prompt recognition, rapid thoughtful intervention and removal of the foreign body, most patients do extremely well and need no further intervention. Removal of such devices can be challenging and often requires resourcefulness and a multidisciplinary approach.