INTRODUCTION

Incarceration of penis by application of foreign material is a historically recognized phenomenon with the first case reported in 1755. The reported motives for placing an incarcerating object in adult population are attempted enhancement of sexual performance, self-treatment of erectile dysfunction and psychiatric disorders. In children, prevention of nocturnal enuresis is the main reason; but it may occur accidently by the hair of the caretaker or may be an intentional act by the patient, a sibling, or a family member. A variety of metallic and non-metallic objects are used. Commonly used metallic objects are wedding ring, nut, ball bearing, washer and piece of pipe. Non-metallic objects include plastic bottle, bottlenecks, rubber bands and plastic rings. Non-metallic and thin objects are easy to remove, while metallic objects are difficult to remove.

The constricting object, when placed over the flaccid or semi-erected penis, often leads to secondary oedema resulting in inability to remove them. This produces an initial venous and lymphatic outflow obstruction distal to foreign object, leading to penile compartment syndrome. Later, it will lead to arterial inflow obstruction, resulting in tissue ischemia and necrosis. An early intervention is required; otherwise, it will lead to penile skin necrosis, penile fibrosis, urethro-cutaneous fistula and complete gangrene of penis.

Bhat et al. have delineated a grading scale for penile incarceration: Grade 1, distal penile oedema; grade 2, distal oedema, skin and urethral trauma, decrease penile sensation; grade 3, skin and urethral trauma, decreased penile sensation; grade 4, corpus spongiosum separation, urethro-cutaneous fistula, corpus cavernosum compression, no penile sensation; grade 5, gangrene/ necrosis and distal penile amputation. Silberstein et al. simplified this grading system into two groups: Low grade injury includes grades 1, 2 and 3; high grade injury includes grades 4 and 5.

We herein, report a case of a young male who suffered grade 2 incarceration injury from the use of a hard metallic ring, which was successfully removed in the emergency operation room.

CASE REPORT

A 22-year male presented in the emergency department of Jinnah Postgraduate Medical Centre, Karachi, with complain of painful swelling of his penis since 4 hours. There was history of self-placement of metallic ring at base of penis for masturbation purpose. He had tried to remove the ring with soap and oil, but failed. Examination at presentation revealed part of penis distal to ring as congested and markedly tender with decreased sensation. He was diagnosed as grade 2 penile incarceration injury. After giving analgesic, intravenous fluid and antibiotics, the patient was shifted to emergency operation room. Under general anaesthesia, metallic ring was removed by string method and multiple aspirations technique. The ring was successfully removed. His postoperative recovery was uneventful.

ABSTRACT

Application of constricting objects over penis for auto-erotic purpose can lead to dangerous results. A variety of metallic and non-metallic objects are used. The removal of these objects is a great challenge. We report a case of a young man who placed a hard metallic ring around his penis for sexual pleasure. A 22-year old man presented in emergency department with complain of painful swelling of his penis since 4 hours. Physical examination revealed part of penis distal to ring as congested and markedly tender with decreased sensation. He was diagnosed as grade 2 penile incarceration injury. After giving analgesic, intravenous fluid and antibiotics, the patient was shifted to emergency operation room. Under general anaesthesia, the metallic ring was removed by string method and multiple aspirations technique. The ring was successfully removed. His postoperative recovery was uneventful.

Key Words: Penile incarceration. Metallic ring. String and multiple aspiration technique.
Penile incarceration by metallic ring

**DISCUSSION**

Penile incarceration with metallic objects is reported in all age groups (15 - 50 years) worldwide. They present clinically as penile skin damage resembling traumatic avulsion. This is a urological emergency requiring immediate attention because of the risk of irreversible ischemic damage. Management of such cases poses a great challenge to the treating surgeon, as it often requires team-work not only of doctors but also experts from engineering department.

Management issues in such cases are relief from retention of urine, removal of constricting object, prevention of sepsis, and prevention or treatment of complications. Urethral Foley’s catheterisation is usually adequate but may need suprapubic catheterisation. The most challenging job is the removal of the constricting object. Conventional methods described to remove the incarcerating object include: (1) Aspiration technique; (2) String method; (3) Cutting devices, and (4) Surgery. In general, string technique and aspiration procedure, alone or more commonly in combination, are suitable for grade 1-3 injuries, while use of cutting devices has been described in all grades of injuries with reasonable degree of success.6

Aspiration technique involved the use of 18 G butterfly needle and aspiration of blood from shaft and glans to achieve detumescence. This can be combined with multiple subcutaneous punctures with manual aspiration of fluid, prior to application of string. String method was originally described by Flatt.7 He used this method for removal of strangulating ring from traumatic fingers. Bucy used this method for the first time in 1968 to remove metal ball bearing from an incarcerated penis.8 Detweiler and Perkins used latex band in a similar fashion, calling it the wrapping technique.9 We also used a combination of string method and aspiration technique in our patient. Drip set tubing (latex band) was used as string over penile shaft area. The width and elasticity of latex band is atraumatic to oedematous tissue and allow compression to penis without damage. Glans decompression was difficult with drip set tube, so we used urine bag tube which was more broad and strong, and worked nicely over glans. Liquid paraffin can be used on penile surface for lubrication.

Two types of cutting devices are used, non-electrical and electrical. Surgery in the form of degloving up to Buck’s fascia to reduce the effective diameter of penis may be required in some patients. Advanced grade injuries can be treated with wide tissue debridement of devitalised tissue, followed by skin replacement. Penile amputation with re-implantation by using micro-surgery technique for grade 4 and 5 injuries has been suggested. In case of penile gangrene, partial or total amputation can be done.10

In conclusion, this case highlighted the usefulness of combined string and multiple aspiration, technique, using simple objective for removing metallic rings from the penis.

**REFERENCES**