CASE REPORT

Successful removal of strangulating metal penile ring using a dental handpiece

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SUMMARY**Background** Under emergency conditions, the dental handpiece can be a useful tool for removing a strangulating penile ring.**Objective** To report the successful use of a dental handpiece (dental drill) to remove a strangulating penile ring in an emergency.**Method** A case report of a strangulating metal penile ring in a psychiatric patient who presented at the accident and emergency unit of Delta State University Teaching Hospital.**Result** The metal ring was removed using a diamond bur in a dental handpiece.**Conclusions** In case of emergency, the dental handpiece is a useful tool for removing a strangulating penile ring.

made several unsuccessful attempts to remove the ring at home before he asked for help. Examination by the urologist showed a metal ring located at the base of the penis ([figure 1](#)), which was engorged at the distal end. It was tense and shiny with abrasions on the skin surface. The diagnosis was of a strangulating penile ring. An intravenous line was set up and the patient was given analgesics, sedatives and antibiotics. Several attempts at removal of the ring using various lubricants and cutting devices like orthopaedic surgical saws and pliers failed. Finally, the possibility of using a dental handpiece was considered and the dental surgeon consulted; the patient was transferred to the hospital's dental centre. He was seated on the dental chair and the ring was gradually removed with the aid of a diamond bur in a dental handpiece ([figure 2](#)). The procedure ([video 1](#)) lasted for approximately 40 min under copious irrigation of water in a 20 mL syringe to prevent thermal injury to the penis. After cutting through it, the ring was dislodged from the base of the penis by bending the two cut edges outwards with dental extraction forceps. The dislodged ring measured 22 mm in diameter, 8 mm in width and 2 mm in thickness ([figure 3](#)). Immediately after the ring was removed there was spontaneous, uncontrolled urination by the patient and the distal oedema started to resolve ([figure 4](#)). The patient was placed on antibiotics and analgesics and was discharged home after 36 h with no adverse effects. There were no complications at 10 months' follow-up.

BACKGROUND

The use of a dental handpiece to remove a strangulating penile ring is not a common practice. This success of relieving the penis of strangulation under an emergency situation is worth making public.

CASE PRESENTATION

An uncommon urological emergency is strangulation of the penis by a ring made of plastic, metal or other material. Under such a condition the patient and his relatives are anxious and agitated. Moreover, there is a challenge before the urologist to relieve the penis of the strangulation as quickly as possible to prevent it from becoming gangrenous. Penile rings have been removed successfully by adopting varying methods and tools including: string method,¹ orthopaedic saw,² stainless steel large ring cutter,³ angle grinder,⁴ surgery and, recently, the tuck technique.⁵ Although dental drills have been used to remove entrapped finger rings,^{6,7} the use of a dental handpiece as an emergency tool to relieve the penis of strangulation is rare, with only one case⁸ documented. In this report we present a case of successful removal of a strangulating metal penile ring in a psychiatric patient using a dental handpiece.

A 30-year-old known psychiatric patient presented to the accident and emergency unit at around 8 pm on his birthday accompanied by his uncle and a friend. The patient had a 16 h history of his penis being trapped in a metal ring with associated swelling and bruises on the penis. The correct history could not be ascertained due to his mental state; he said he was playing with the ring around his penis when it got trapped. The patient

Figure 1 Strangulating metal penile ring in situ.

CrossMark

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Figure 2 Dental handpiece being used to remove the metal penile ring.

TREATMENT

The penis was relieved of strangulation using a dental handpiece in the dental centre.

OUTCOME AND FOLLOW-UP

There were no complications at 10 months postoperative.

DISCUSSION

A strangulating penile ring is a urological emergency with various reported methods of management. Strangulation of the penis may be caused by materials such as thread, hair, a rubber band, wedding ring, engine bearing, hammerhead, bull ring, plastic bottle or metal plumbing cuff, with each requiring a different type of cutting device. Delay in relieving the penis of strangulation can result in various adverse effects ranging from simple oedema to bruises, abrasions, urethral injury, urethral stricture, urethral fistula, retention of urine, postobstructive diuresis, lymphoedema, gangrene of the penis and penile amputation,⁹ hence a swift yet safe method of relieving the strangulation is highly recommended. Penile rings are used for various reasons including erectile dysfunction or hyperfunction to

Video 1 Strangulating penile ring removal using dental handpiece.

Figure 3 The metal ring.

prolong erection. It can be worn as a sex toy, as genital jewellery or simply for appearance. The reason for using the penile ring in our patient could not be ascertained due to his mental status; it may possibly have been for an autoerotic purpose. Numerous methods have been described for the removal of constricting devices. When choosing a method, the material to be removed, severity of penile injury and availability of tools² should be considered to avoid further injury to the penis. Therefore, the prompt and safe removal of the strangulating agent by whichever instrument available is recommended. Our patient's emergency made us consider the possibility of using a dental handpiece when other cutting devices around the emergency department were ineffectual. A similar case reported⁸ how useful the dental handpiece can be when other cutting devices fail. The dental handpiece with bur is a high speed rotatory device used for various dental procedures. In our case this cutting device became a useful instrument in relieving the penis of strangulation under an emergency condition.

CONCLUSION

A bur in a dental handpiece can successfully remove a strangulating metal ring on the penis of a patient under an emergency

Figure 4 The penis after removal of the metal ring.

condition. The option of this instrument should be considered when the need to remove a strangulating penile ring arises.

Learning points

- ▶ Unusual tools can be employed to achieve a desired goal under emergency.
- ▶ Under emergency conditions a dental handpiece can be a useful tool to relieve a strangulating penile ring.
- ▶ Penile rings are being worn for various reasons.
- ▶ More enlightenment is needed to educate users of penile rings in order to prevent strangulation and its complications.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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