

Case Report

Unusual Dental Practice: An Encounter with Penile strangulation: A case report.

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Penile strangulation with a ring is rare, and it's considered a urological emergency whenever it occurs. Its management can be challenging at the acute phase to the urologist where all manner of procedures are considered in an attempt to remove the ring in an inflamed penis. Incidence of penile strangulation in our environment is lacking and anecdotal report suggests increased involvement of youths in our society, in order to increase sexual eroticism. A case of an alloy ring penile strangulation, which elicited the response of all stakeholders in the accident and emergency unit of a tertiary health institution in Nigeria. The patient had received Pre-hospital management at a local Gold Smith, which had complicated the strangulation. The management of this case involved various medical disciplines in the emergency department. This case also exposes an urgent need to counsel patients against such experimental practices on their penis and to seek appropriate medical attention whenever such occurs. Various surgical techniques by tried by the trauma and urological surgical team proved abortive, the dental team was consulted on the case, the dental team utilized their diamond cutting burs with turbine hand piece that eventually removed the rings without significant consequences.

Keywords: Strangulation, Penis and Ring, Dental Practice

INTRODUCTION

Entrapment of metal rings that strangle the shaft of the penis is an uncommon emergency in urology, in dental practice it is not only rare but unexpected. Removal of these rings may be challenging for the Urologist (Perabo et al., 2002). If the condition is left untreated there are potentially dangerous consequences for the patient. There are sporadic reports of penile strangulation in the medical literature (Bhat et al., 1991; Noh et al., 2004; Kimber and Mellon, 2004; Mooreville and Meller, 2001; McGain and Freedman, 1999; Jain et al., 2004; Gupta et al., 2005; Kore and Blacklock, 1996; Huang et al., 1997). This condition is not common, but it is certainly a urologic emergency as prompt removal of the constricting object and the decompression of the penis is required to prevent long-term complications. The publication of Huang JK, Holt D, and Philip T (Huang et al., 1997) was the only documented use of dental drill after several internet and publication searches.

CASE PRESENTATION

A 28 year old black male of Nigeria descent presented with severe painful edematous penis and difficult in micturition. The restless patient was very reluctant to give a history; his history was eventually revealed by his father, which involved the use of rings on his penis and forearms for sexual stimulation. This history was confirmed by the presence of deeply rooted markings on both of his forearms. General examination revealed no other pathology; however there were signs of psychotic depression hence the psychiatrists were invited after removal of the rings. Laboratory investigations involving full blood counts, packed cell volumes (PCV) and other hematological screening were normal.

The blood pressure was 150/95 mmHg while the heart rate was 97 beat per minute. Apart from the edematous penis, no other organ of the body showed any sign of abnormality. Based on the history, clinical examination and investigation a primary diagnosis of "Penile Strangulation" was made while secondary diagnosis of "Depression" was made. The primary diagnosis led to

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Figure 1: Penis with ring prior to surgical removal



Figure 2: Penis after removal of the ring

networking with several other medical disciplines with sole aim of removing the ring from the penis as painless as possible.

Why the Dentists were consulted?

The existence of dental unit in the accident and emergency was meant primarily to treat Oro-facial injuries arising from any form of trauma such as road traffic accidents, falls, gunshot and several other causative factors. The unusual encounter with penile strangulation was unplanned. The repeated screaming of the patient in severe pain and edematous penis attracted a lot of attention from all departments in the accident and emergency. Consultation with the trauma team further revealed a two day history of admission at the place of a local gold smith, where efforts that had been made to cut the ring had failed. Several attempts were made with ring cutters, pliers and other devices by the trauma and urological surgical team, to cut the ring had also proved unsuccessful. When the dental team was consulted, the dentist concluded after assessment of the case, based on



Figure 3: Removed ring showing pattern of cuts

the nature of the extremely solid alloyed ring, that a diamond cutting burs on a turbine hand piece could remove it.

Consent of the Patient: As a result of the severe pain and level of irritability of the patient, the father's consent was sought and approval received for surgical intervention and photo documentation for purpose of research and publications. However, when patients pain had been relieved, the consent of the patient for publication of this article and use of clinical photographs was obtained.

Methods of cutting Alloyed ring from strangulated penis

The Patient was counseled and transferred from casualty bed to a dental chair. History of the patient revealed that he is in the habit of using this ring to sexually arouse himself for emotional pleasure and he also admitted that he enjoyed doing it. His fore-arm also showed marking of metal objects. Clinical examination revealed a deeply-engorged penis with the ring at the base of the penis. The overlying penile skin was excoriated and friable. Local anesthesia without adrenaline was subcutaneously given with 5ml disposable syringe at the base of the penis. A kidney dish was placed below the penis with the scrotal sac inside so as to protect it and its surrounding. KY jelly was topically applied. Fissure diamond bur was used to initially put two land marks on the surface of the ring, so that it could easily be detached from the penis. During cutting with the turbine hand piece sparks were emitted from the ring and a plastic instrument was inserted between the penis and the ring so as to protect the penis from heat and inadvertent lacerations from the turbine hand piece. Irrigation was done with sterile water from a 10ml syringe which served as a coolant. A total of five burs were used for the procedure.

See Images for visual effect (Figures 1-3). Figure 4: Armamentarium of some of the devices used prior to dental intervention.



Figure 4: Armamentarium of some of the devices used prior to dental intervention.

DISCUSSION

Various metallic and non-metallic devices including finger ring, (Perabo et al., 2002; Bhat et al., 1991) metallic nut, (Perabo et al., 2002) barbell retaining ring, (Noh et al., 2004) hammerhead, (Bhat et al., 1991) rubber band, (Perabo et al., 2002) thread, (Perabo et al., 2002) and plastic bottle neck (Bhat et al., 1991) have all been described to have caused strangulation to the male external genital in the literature. These constricting devices may impede the venous and lymphatic return causing distal edema of the external genital. This causes various cycles of outflow obstruction and swelling which eventually leads to ischemia of the external genital. Dental intervention in removal of this ring confirms the argument that all units should collaborate and consult when necessary for rapid clinical results especially in an emergency setting, with new challenges daily rather than the attitude of know-it all and do-it-all-alone.

There are numerous reports of penile strangulation in the medical literature (Perabo et al., 2002; Bhat et al., 1991; Noh et al., 2004; Kimber and Mellon, 2004; Mooreville and Meller, 2001; McGain and Freedman, 1999; Jain et al., 2004; Gupta et al., 2005; Kore and Blacklock, 1996; Huang et al., 1997). In most cases, the act is performed to initiate and sustain erotic stimulation (Huang et al., 1997). The constricting effect of the foreign body increases the engorgement of the penis. The subjects' inability to realize that the resulting edema of the penis will prevent normal removal of the ring often leads to hospitalization with great discomfort. In reported cases of penile strangulation, many required special equipment and heavy armamentarium for the offending object to be extricated (Bhat et al., 1991; Noh et al., 2004; Kimber and Mellon, 2004; Mooreville and Meller, 2001;

McGain and Freedman, 1999; Jain et al., 2004; Gupta et al., 2005; Kore and Blacklock, 1996). Equipment used included an iron saw (Mooreville and Meller, 2001) pliers, (Jain et al., 2004) a high-speed diamond-tipped dental drill (Gupta et al., 2005) and orthopedic equipment (Mooreville and Meller, 2001; Jain et al., 2004). In our case these same collections were used. 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 (Perabo et al., 2002; Bhat et al., 1991; Jain et al., 2004). Another ingenious method has been described where the constricting object is removed by manual decompression of the penis (McGain and Freedman, 1999; Jain et al., 2004). 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 (McGain and Freedman, 1999).

Local and systemic complications 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 ischemia which may require amputation as a life-saving measure, and the formation of urethra-cutaneous fistula (Kore and Blacklock, 1996). Systemic complications are less well documented in the literature. Renal impairment from the obstruction is one such complication (Huang et al., 1997). The benefit of dental intervention saved the patient money and hospital time. The clinical procedure lasted about one hour.

Figure 1 illustrates the strangulated penis with the alloy rings, while figure 2 and 3 shows the penis after removal of the ring, while figure 4 shows collections of materials used to remove the ring. After the ring was removed the patient was referred back to urologist, and was catheterized, and a total of 1.0 L of urine was drained. Psychiatrist evaluation was eventually requested.

CONCLUSION

The ring was removed without any complications. In conclusion, penile strangulation, though uncommon, can be challenging to manage and the dental team can play a significant role in its removal with the use of dental drill.

REFERENCES

- Bhat AL, Kumar A, Mathur SC, Gangwal C (1991).. Penile Strangulation. Br. J. Urol. 68: 618-21,
- Gupta SP, Raiger LK, Sharma V, Maheshwari R (2005). Penile strangulation by metallic rings. *Bombay Hosp J [serial online] 2005; 47. Available at: www.bhj.org. Accessed January 18, 2009.*

- Huang JK, Holt D, Philip T (1997). Penile constriction by foreign bodies: the use of a dental drill. *Br. J. Urol.* 79:801.
- Jain S, Gupta A, Singh T, Aggarwal N, Sharma S, Jain S (2004). Penile strangulation by a hard plastic bottle: a case report. *Indian J. Surg.* 66:173-5.
- Kimber RM, Mellon JK (2004). The role of special cutting equipment and corporeal aspiration in the treatment of penile incarceration with a barbell retaining collar. *J. Urol.* 172:975.
- Kore RN, Blacklock AR (1996). Ring the fire brigade. *Br. J. Urol.* 78:948.
- McGain F, Freedman D (1999). Penile entrapment in a bottle: the case for using a diamond-tipped portable glass saw. *BJU Int.* 83:1071-2.
- Mooreville M, Meller M (2001). Penile incarceration with barbell retaining ring. *J. Urol.* 166:618.
- Noh J, Kang TW, Heo T, Kwon DD, Park K, Ryu SB (2004). Penile strangulation treated with the modified string method. *Urol.* 64:591.
- Perabo F, Gabriel S, Albers P, Muller S (2002). Treatment of Penile strangulation caused by constricting devices. *Urol.* 137-139.