



Penile Strangulation by Hair: A Case Report



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Citation: Arshadi H, Fatemi Behbehani SM, Karimi A, Lotfi B. Penile Strangulation by Hair: A Case Report. Case Reports in Clinical Practice. 2019; 4(2):44-47.

Running Title: Penile Strangulation by Hair



Article info:

Received: 16 April 2019

Revised: 06 May 2019

Accepted: 18 June 2019

Keywords:

Penile strangulation; Tourniquet syndrome; Hair tie

ABSTRACT

We present the diagnosis and surgical treatment of a boy with hair-thread penile strangulation. A 9-year-old boy was admitted with chronic ulcer around the coronal sulcus of his penis due to hair wrap. The glans was approximately hanging from the penile shaft by a very slim pedicle. We anastomosed edges of transected corpus cavernosum and urethra and covered them by dartos flap and skin. Although glans of the penis was cyanotic in post-operative hospitalization days, the outcome of surgery was satisfying.

Introduction

Penile hair strangulation is characterized by progressive penile strangulation caused by a hair coil wrapped around the penis. Appendages commonly involved include finger, toe, external genitalia, labia minor, clitoris, and penis. The first report of penile hair tourniquet strangulation was published in the 1960s [1]. Hair coil strangulation of the penis is a rare entity, affecting

mostly circumcised boys between 0 and 6 years of age [2]. Although penile strangulation has been reported before, the syndrome is very rare in older boys [3]. Here, we report the diagnosis and surgical treatment of a 9-year-old boy with hair-thread penile strangulation.

Case Presentation

A 9-year-old circumcised boy was admitted to the emergency ward at 4 AM with penile pain. Physical

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examination revealed an indurated pale glans. There was a mark that had clean deep ulcer around the coronal sulcus of the penis. The glans was pale and mildly edematous. The patient admitted to the operation room and physical examination completed under general anesthesia.

Stretching the area showed a shallow fissure running around the circumference of the coronal sulcus, and hair was wrapped around the base of the fissure. The glans was approximately hanging from the penile shaft by a very slim pedicle (Figure 1). Hair tie has dissected the urethra completely from the ventral and neurovascular bundle and corpus cavernosum from dorsal. Only a thin part of corpus cavernosum was attached to the glans. The necrotic tissue debrided and the coil of hair was carefully removed. The transected edges and surfaces were epithelialized that showed the chronicity of damage. First, we refreshed the edges and surfaces of transected epithelialized corpus spongiosum and corpus cavernosum distally and proximally.

Then urethra was anastomosed by a 10 Fr silicone Foley catheter with 6-0 PDS. The edges of glandular corpus cavernosum were visible and anastomosed to penile corpus cavernosum. In the end, we covered the reconstruction by dartos flap and skin (Figure 2). Broad spectrum intravenous antibiotic and pentoxifylline were ordered. At the afternoon visit, the glans of the penis was cyanotic (Figure 3). Pulse oximetry of glans was showing 72% O₂ saturation. Then we prescribed enoxaparin. Glans cyanosis decreased gradually over several days after surgery.

The patient discharged from hospital in the eighth post-operative day when the glans was relatively cyanotic, and O₂ saturation of glans in pulse-oximetry was 80%. The patient referred to the urology clinic 12 days later. In physical examination, there was a thick crust on the glans. In the operation room under general anesthesia debridement of penile encrustations was done and then Foley catheter removed, and we observed the normal urine flow with manual pressure on the bladder. No urethral fistula or stenosis was seen in follow up, and uroflowmetry was normal (Figure 4). In psychiatry and forensic consult, no evidence of child abuse was found.

Discussion

Although penile hair strangulation syndrome is rare, it can cause variable penile injuries from mild penile edema to penile amputation [2]. The hair is almost exclusively coiled around the coronal sulcus and encountered mostly among circumcised boys [4]. Because the hair is extremely thin, especially when there are local soft tissue reaction and edema, it may go overlooked and undiagnosed for a long time [5]. Awareness of diagnosis and immediate intervention can prevent severe complications [2]. Penile tourniquet syndrome usually is seen under 7 years of age, especially in infants [3].

Zengin et al. reported an 8-year-old boy with non-strangulated penile hair tourniquet syndrome [3]. Acimi et al. reported 7 boys with penile hair strangulation aged up to 134 months [4]. Harouchi et al. reported 38 cases of penile hair strangulation syndrome that graded from I to IV according to the severity [6]. They suggested



Figure 1. Penile strangulation by the hair



Figure 2. Refreshing and anastomosing the epithelialized transected edges and surfaces





Figure 3. Cyanotic glans on the first-day post-op visit



multi-stage repair for severe cases. El Bahnasawy et al. reported delayed repair for cases with late presentation and established urethrocutaneous fistula [7]. In the five patients with a glans hanging on a thin pedicle after hair tie strangulation, they used one stage repair with removing hair coil and reconstructing the glans and urethra.

Kirtane and Samuel et al. operated 10 boys with penile hair strangulation [8]. In the first three cases, they just approximated the transected urethra and glans. All three cases showed persistent urethral fistula. So in the latter seven cases, they altered the surgical technique. Surgeons denuded the opposing surfaces of transected glans and penile shaft by sharp dissection and then sutured. No sutures were taken to the severed ends of the urethra. Afterward, they had just one boy with a small leak with spontaneous closure after dilatation of urethra. They found that one stage treatment immediately after control of infection and edema yields satisfactory results.

In our case, although glans was pale and pedicle was slim, we did one stage repair. During post-op, the glans was cyanotic, but in the end, the result of the operation was good with no complication. Even in severe penile hair strangulation with very thin pedicle, one stage repair can be an appropriate option. The patient's family did not belong to a poor socioeconomic family, but we think that there is a cultural problem in this case. We



Figure 4. Three months after surgery



suggest that parents and children communicate more about the issues of sex and genitalia.

Ethical Considerations

Compliance with ethical guidelines

This case is reported in accordance with ethical guidelines of Tehran University of Medical Sciences. Informed consent was taken before reporting.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interest

The authors declared no conflict of interest.

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