

A Rare Case: Hair/Thread Tourniquet Syndrome Involving Penis in an Adult

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Abstract

Case Report

An 85 year old male came to casualty with complaints of urine leaking from proximal penile stump with penile trauma. History of dribbling of urine present since 1 month for which he himself tied a thread on his penis causing his penis getting partially amputated. Diagnosed clinically and treated by partial penectomy and meatoplasty.

Keywords: Penis, urinary leak, partial penectomy, meatoplasty.

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INTRODUCTION

Hair-thread tourniquet syndrome (HTTS), coined in 1988 by Barton *et al.*, [1] was recognized by at least the 17th century when a hair was reported as strangulating the glans penis. The Lancet officially published a case as long ago as 1832 [2] and HTTS has subsequently been well-established in medical literature [3]. Yet numerous clinicians remain unaware of it.

HTTS refers to hair (or textile-threads) getting firmly-bound around an appendage, typically with an end-artery such as a digit, causing a “compartment syndrome-like” situation and the possibility of ischaemic gangrene. There are a number of pseudonyms including tourniquet syndrome and toe tourniquet syndrome.

It is important to distinguish HTTS from congenital constriction band syndrome (amniotic band syndrome, Streeter's dysplasia), the latter being a rare congenital condition that is associated with other musculoskeletal disorders.

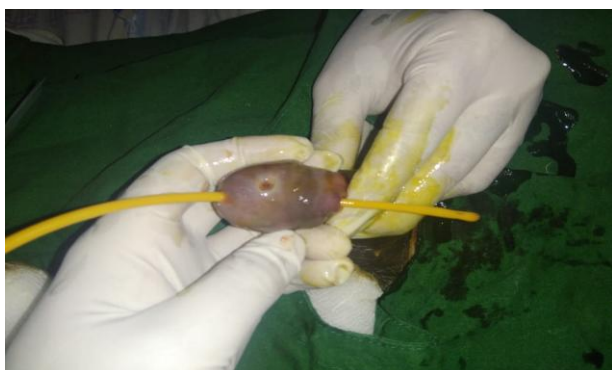
CASE PRESENTATION

An 85 yr old male came to casualty with complaints of urine leaking from area where he used to tie rubber band to prevent urine leak from penis tip - since last couple of months.

On L/E-

- Dribbling of urine
- Rubber band cutting through penile shaft 1 cm proximal to corona.
- Distal part of penis hanging with remaining residual skin and corporal bodies
- Oedematous glans
- 0.5 cm ulcer over ventral aspect of glans
- Proximal urethra orifice could not be identified due to severe edema
- Distal urethra orifice also could not be seen.
- Rubber band cut and removed in casualty
- Patency of urethra checked but catheter could not be negotiated in to proximal urethra in OPD.
- Distal glans urethra could be catheterised.





After all routine investigations patients was planned for Partial Penectomy with meatoplasty.

Partial amputation/ excision of loose hanging portion of distal penis with proximal meatoplasty using skin of residual penile shaft. Proximal urethra was normal.



Post Op

- Urinary incontinence present.
- Hence urethroscopy advised to assess cause of incontinence
- Proximal end of transected urethra identified with difficulty but once identified, could be catheterised easily – No proximal obstruction.

DISCUSSION

Etiology

- Most commonly caused by hair (horse hair).
- Metal band tourniquets
- Thin rubber bands (as in this case)
- Fine threads
- Some call the condition “constricting tourniquet or hair-thread tourniquet.
- More common in paediatric population

Pathogenesis

- Circumferential constriction leads to substantial injury

- Lymphatic drainage is initially obstructed
- Increasing edema impedes venous flow
- Venous obstruction further increases swelling which obstructs arterial flow that leads to
 - a. Tissue necrosis
 - b. Infection
 - c. Non healing ulcer
 - d. Amputation
- As the process continues hair/thread cuts through the skin . Commonly involves toes, external genitalia and fingers.

Diagnosis and Management

- Diagnosis is made clinically
- Remove the constricting band by incising it as soon as possible
 - a) Occasionally using a curved needle can assist in this.
 - b) In case of penis, incision needs to avoid the urethra in the corpus spongiosum
- No residual foreign body should remain
- Depilatory cream
 - a) Cream with thioglycolate and calcium hydroxide or sodium hydroxide
 - b) Thioglycolate breaks down disulfide bonds of keratin, dissolving the hair.
 - c) Alkaline component assists with penetration into hair
 - d) Dissolving time 2.5 to 8 minutes
 - e) Not to be used on ulcers
 - f) Does not dissolve cotton, polyester or rayon threads.
- Broad spectrum antibiotics and analgesics are given
- Close follow up.

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