



## URETHROCUTANEOUS FISTULA DUE TO PENILE HAIR TOURNIQUET : A CASE REPORT

### General Surgery

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### ABSTRACT

Hair tourniquet syndrome is characterised by circumferential strangulation of an appendage or genitalia by human hair or fibres. Here we are reporting a rare case of distal penile urethrocuteaneous fistula and its management due to penile hair tourniquet in a 16 year old child. High index of suspicion is needed to identify the condition. Early diagnosis and appropriate treatment can prevent the loss of glans and other complications. Child abuse should be considered carefully in suspected cases.

### KEYWORDS

Hair tourniquet, urethrocuteaneous fistula.

### INTRODUCTION:

This pathological condition was first described In 1832 and in 1971 termed as hair tourniquet syndrome by Quinn. (1) Penile tourniquet syndrome (PTS) is usually caused by a hair coil wrapped around the sulcus coronarius of penis. The complications range from simple edema to necrosis. It was significantly encountered in circumcised boys. Urethrocuteaneous fistula, complete urethral transection, penile gangrene, or penile amputations can be the outcomes. Although most cases are felt to be accidental, child abuse must be considered in selected cases. The condition although potentially preventable can be quite serious if not promptly recognised and treated.

### CASE REPORT:

A 16 year old boy presented to our hospital with complaint of passing urine from an opening on ventral surface of penis, apart from the external meatus. The patient belongs to a muslim family and had undergone a religious circumcision just after birth on the 8<sup>th</sup> day. The patient had visited a paediatric surgeon at the age of 10 years with the complaint of pain in the penis and on examination at that time it was found that a band of hair was present just proximal to the corona. At present on examination there was an external opening on the ventral aspect of penis at the same site where the band of hair was present just proximal to the corona. The glans, rest of the penis, bilateral testes and scrotum appeared normal. On further examination the child was well built for his age, abdominal examination was normal, and urinary bladder was not palpable. Despite detailed history we could not find the cause of this problem including child abuse, sexual assault or any foul play. The patient was advised Retrograde urethrogram and micturating cystourethrogram, report of which was suggestive of extravasation of contrast from penile urethra near glans through the opening over ventral surface of penis. There was no stricture or narrowing found and no evidence of vesico ureteric reflux. Under general anaesthesia fistulous tract was excised and then closed vertically with absorbable suture and then dartos flap was used as a second layer covering. Foley's catheter no. 12 was inserted. Post operative period was uneventful. Patient was discharged on post operative day 7 with catheter in situ and was asked to follow up in O.P.D. The catheter was removed after 3 weeks. The wound was healthy and the urinary stream was found to be normal without any extravasation from the previous fistula site. Patient was followed up after 3 months and uroflowmetry was done which was normal.



RGU shows extravasation of contrast from penile urethra near glans.



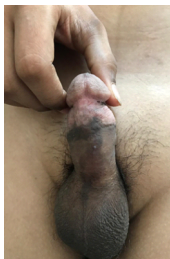
Urethrocuteaneous fistula marked. Infant feeding tube can be seen through fistula.



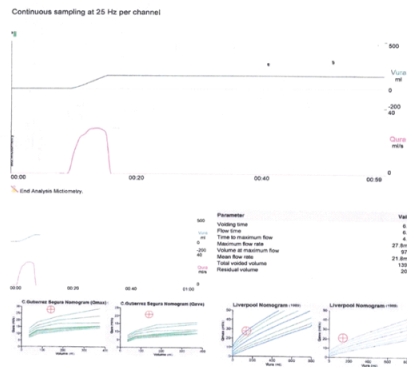
Urethrocuteaneous fistula vertically closed with absorbable sutures.



Dartos flap raised and used as second covering.



After 6 weeks of surgery, Patient had good stream of urine. Follow up uroflowmetry done at 3 month



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**Follow up uroflowmetry done at 3 month**

**DISCUSSION:**

Penile hair tourniquet syndrome is a very rare clinical situation. In this situation, fibres of hair are tied around the penis. The cause may be accidental, incidental, intentional, or indeterminate. A predisposing factor for this syndrome is circumcision as hair is more easily entangled around a circumcised penis than around a glans covered by an intact prepuce (2). This condition generally occurs in children. In our case the strand of hair was found around the corona at the age of 10 years and at that time the strand of hair was removed. The child again presented with urethrocutaneous fistula at the age of 16 years.

Alpert and associate discussed the physical characteristic of human hair that makes it particularly harmful. As the human hair is slender it is easily overlooked, especially when there is a foreign body reaction and swelling. Furthermore, human hair stretches when wet and contracts and tightens as it dries. Hair has tensile strength of greater than 29,000 pounds per square inch. These characteristics make it an excellent agent for accidental or intentional constriction.(3)

Basir and EL Barbary reviewed important anatomical properties of penile shaft and correlated them to the progressive nature of the injury. The part of penile skin devoid of subcutaneous tissue and located most superficially, is affected first. With a very thin layer of fibrous tissue around corpora spongiosum and urethra they are most susceptible to the injury rather than corpora cavernosa which are covered by the tunica albuginea, a dense fibrous layer. If the ventral aspect of the penis is affected by the strand of hair the urethra may be transected, producing an urethrocutaneous fistula. The neurovascular bundle also may be injured. The categorisation of penile strangulation is as follows:

- Grade 0: Constriction of skin without urethral injury.
- Grade 1: Partial division of corpus spongiosum with urethrocutaneous fistula.
- Grade 2: Complete division of corpus spongiosum and constriction of corpus cavernosum.
- Grade 3: Gangrene, necrosis and complete amputation of glans. (4)

In our case, the injury falls into the grade 1 of above classification. Early recognition of this condition is important and requires a high index of suspicion when no other cause is found. The causative agent (hair) should be removed promptly to avoid further damage.

After the constricting band is removed we have to wait till the edema and inflammation subsides and then only the fistula repair should be planned. Depending on the severity of the injury, urethrocutaneous fistula repair, end-to-end urethroplasty or urethral advancement and glanuloplasty incorporated procedure may be used (5). In our case as there was only a coronal urethrocutaneous fistula, so we repaired the fistula interposing the dartos cover.

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