

# Hair thread tourniquet syndrome in an eight month old infant

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## Abstract

Circulating hairs or threads may cause hair-thread tourniquet syndrome in babies and mentally retarded individuals. Although it is mostly seen in the fingers and toes, it can be seen in the penis, clitoris, and labium and uvula. It may result in loss of the limb if it's not recognized early and is not treated correctly. In this study, the case of the second toe of the left foot was presented. Eight month old boy presented with complaints of restlessness and crying for 2 days. Physical examination revealed a constrictive band surrounding the proximal phalanx second toe of the left foot. There was no evidence of child abuse from the family history. It is recommended to make a longitudinal deep incision where there is coiling of the finger. Wrapped hair thread were removed and treated with a small and deep incision dorsally under local anesthesia as described by Serrour. Amoxicillin clavulanic acid was given orally as antibiotic. The wound was healed without any problem by dressing with antibiotic creams for 10 days. In conclusion, it is important to keep this syndrome in mind in patients presenting with the mentioned complaints, in terms of diagnosis and recovery of limb with early treatment.

**Keywords:** Hair; thread; tourniquet syndrome; child abuse

## INTRODUCTION

In infants and mentally retarded individuals, circulatory disruption of the limbs is caused by hair-thread tourniquet syndrome (1). Although it is mostly seen in the fingers and toes, it can be seen in the penis, clitoris and neck (2-7). It may result in loss of the limb that is not recognized early and is not treated correctly. This case was diagnosed early and treated successfully with appropriate treatment. In this study, a case of toe was presented.

## CASE REPORT

An 8 month old boy presented with complaints of restlessness and crying for 2 days. Physical examination revealed a constrictive band surrounding the proximal phalanx of the left foot (Figure 1). There was no evidence of child abuse from the family history. The hairs were removed and treated with a small incision dorsally under local anesthesia as described by Serrour. Amoxicillin clavulanic acid was given orally as antibiotic. The wound healed without any problem by dressing with antibiotic creams for 15 days. The patient was seen at the 24 th

month of the event and there was no problem on his finger (Figure 2).



Figure 1. preop view

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Figure 2. Postop 2nd year

## DISCUSSION

Disruption of the circulation of the limbs by hair or thread leads to a condition known as "hair-thread tourniquet syndrome". The first known case developed in 1832 as a result of entangled hair of a baby's penis. The finger entanglement with hair was first reported by Alpert in 1965. Barton described this entity in 1988 as "hair-thread tourniquet syndrome". In this syndrome, cases involving the fingers, toes, penis, clitoris, labium and uvula were observed (1,2).

Edema occurs primarily by lymphatic drainage disruption in the involved limb. The venous and arterial circulation is then disrupted by the tourniquet effect. As this condition progresses, the hair or thread can be cut into the skin and buried deep and becomes difficult to detect. If not diagnosed and treated early, it causes necrosis and loss of the involved limb. Although these cases are generally seen less than 1 year of age, a 4-year-old case has also been reported in the literature.

## CONCLUSION

Although the exact mechanism of this syndrome is not known, it is thought to be by accident. However, child abuse should also be borne in mind. Quinn said that the plantar reflex of the babies can play a role in the formation of this situation with the clothes worn by the babies. Some other mechanisms can be considered as wrapping the limb with hair or thread because of ethnic or superstition (3-6). For prevention, Uygur and colleagues suggested that reversing children's socks during washing may be beneficial (7). A longitudinal deep incision is recommended in the treatment where the finger is wrapped (8). In conclusion, it is important to keep this syndrome in mind in similar cases in terms of early diagnosis and rescue of affected limb.

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## REFERENCES

1. Barton DJ, Sloan GM, Nichter LS et al. Hair-thread tourniquet syndrome. *Pediatrics* 1988;82:925-8.
2. Alpert JJ, Filler R, Glaser HH. Strangulation of an appendage by hair wrapping. *N Engl J Med* 1965;273:866-7.
3. Curran JP. Digital strangulation by hair wrapping. *J Pediatr* 1966;69:137-8.
4. Quinn NJ. Toe tourniquet syndrome. *Pediatrics* 1971;48:145-6.
5. Mhiri MN, Midassi H, Mezghanni M et al. Strangulation of glans penis by hair or "penis tourniquet syndrome". *Pediatric* 1987;42:351-3.
6. Kuo JH, Smith LM, Berkowitz CD. A hair tourniquet resulting in strangulation and amputation of the clitoris. *Obstet Gynecol* 2002;99:939-41.
7. Uygur E, Çarkçi E, Ünkar E. Can washing socks without flipping inside out cause hair tourniquet syndrome? A claim with two case reports. *J Pediatr Orthop B* 2017;26:193-4.
8. Serour F, Gorenstein A. Treatment of the toe tourniquet syndrome in infants. *Pediatr Surg Int* 2003;19:598-600.