

Deadly Hair Strand: The Hair Thread Tourniquet Syndrome

¹Kesu Belani L, ¹Hafizi MY, ¹Leong JF, ¹Sapuan J, ¹Abdullah S

¹Department of Orthopaedic and Traumatology, Faculty of Medicine, Universiti Kebangsaan Malaysia

INTRODUCTION:

Hair thread tourniquet syndrome (HTTS) is a rare and known condition involving entrapment of fibers around appendages leading to ischemia and necrosis¹. It is an emergency condition as delay can lead to amputation. Appendages involved are toes, fingers, genitalia and uvula.

MATERIALS & METHODS:

We report a 2-month-old girl with swelling of her right ring finger for a day. She had an obvious constriction with redness and congestion distal to the metacarpophalangeal joint of the ring finger (Figure 1). There were no signs of tissue necrosis, no known congenital issues such as constriction band syndrome and no trauma. HTTS was considered, but a constricting thread was not obvious.

A few strands of hair (Figure 2) were removed with loupes in the emergency department. However, we were not convinced that all the strands were completely removed. Exploration under general anaesthesia with a microscope definitely proved that there was no remaining hair strands (Figure 3). The constricted soft tissues may be released with simple undermining and vertical mattress sutures without resorting to Z plasties.



Figure 1

Figure 1: Constriction distal to right ring finger metacarpophalangeal joint.



Figure 2

Figure 2: Hair thread retrieved from constriction.

RESULTS:

Finger circulation was monitored for one day. At 3 weeks, the wound fully healed and the infant was actively moving the affected finger.

DISCUSSION:

Infants under 6 months are particularly at great risk of HTTS as 90% of women experience postnatal telogen effluvium which peaks between 2 and 6 months post-delivery². There is often a delay of 3-4 days before the condition is recognized³. The treatment of HHTS is aimed to remove completely any encircling fibers to restore the circulation. This can be done with the aid of a magnifying glass in the emergency room, using a depilatory agent, or surgical exploration in theatre.



Figure 3: Volar aspect of constriction showing all hair strands were removed.

CONCLUSION:

HTTS is uncommon. However we should have a high index of suspicion. Surgical intervention with a child under general anaesthesia is definitive when assessing the offending structure in oedematous fingers.

REFERENCES:

1. Barton DJ, Sloan GM. Hair-thread tourniquet syndrome. *Pediatrics* 1988; 82:925-928.
2. Harris EJ. Acute digital ischemia in infants: the hair thread tourniquet syndrome-a report of two cases. *J Foot Ankle Surg* 2002;41:112-116.
3. S. Garc'ia-Mata, A. Hidalgo-Ovejero, "Hair tourniquet syndrome of the toe: report of 2 new cases," *J Ped Ortho* 2009;29;8:860-864