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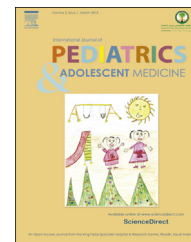


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CASE REPORT

Hair tourniquet syndrome: Successful management with a painless technique



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Abstract Hair tourniquet syndrome is a clinical phenomenon that involves hair or thread becoming so tightly wrapped around an appendage that pain, swelling and occasionally ischemia result. We report two cases of hair tourniquet syndrome that affected the digits and were treated with hair removal cream, which was an easy, effective and less invasive treatment method compared with standard managements such as incision or blunt probe cutting techniques.

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1. Introduction

The clinical entity known as hair tourniquet syndrome was described long ago and occurs when a piece of hair or thread is tightly wrapped around an appendage, such as the digits or genitalia [1,2]. This clinical scenario typically arises in the pediatric patient population [3,4]. The majority of cases involve infants that present early to the emergency department or primary health care center and exhibit a

good response after releasing the tourniquet [5]. Delays in presentation, diagnosis or management can lead to serious complications [6,7].

2. Case 1

A six-month-old boy presented to his local emergency department (ER) with a history of excessive crying for the past two days. This crying was not associated with any fever, decrease in activity, poor feeding or any other symptoms. There was no previous history of medical problems.

On examination, the boy appeared well and was vitally stable with no signs of toxicity or lethargy. Examination of the right foot revealed that the middle phalanx of the middle toe had a groove with mild swelling and edema

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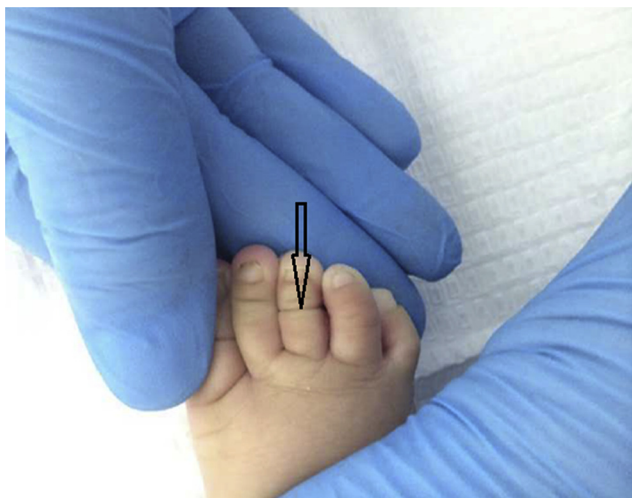


Figure 1 The constriction band causing mild swelling of the right middle toe due to a hair tourniquet (arrow).

(Fig. 1). The skin perfusion of the toe was normal at less than three seconds. There were no signs of erythema or abnormal discoloration that suggested ischemic changes. Examination of the other toes and the penis revealed no swelling or erythema. The other physical findings were unremarkable. Although no hair was observed during direct visualization of swelled toe, the cause of the pathology was suspected to be secondary to hair tourniquet syndrome. Therefore, a small amount of a depilatory agent (Nair) was applied over the region in which the hair tourniquet syndrome was suspected to be. The boy was then re-evaluated after ten minutes; on this evaluation, the normal appearance of the toe was restored (Fig. 2). Moreover, a tiny brown hair was observed in the side of the groove.

After washing the toe, the infant was discharged in an improved and stable condition. A follow-up call with the



Figure 2 Normal appearance of the toe ten minutes after the removal of the hair tourniquet (arrow).

family revealed that the boy was doing significantly better and that his crying had significantly improved.

3. Case 2

A healthy 15-day-old baby boy was brought to the emergency department with a 5-h history of excessive crying, redness and swelling of the left ring finger. The parents denied any history of trauma to the affected site. His feeding and level of activity were optimal. He was afebrile with normal vital signs but appeared to be in pain and cried continuously. A local examination of the hand revealed a red, swollen and tender left ring finger with a circumferential groove in the area of the middle phalanx of the finger (Fig. 3). The capillary refill of the affected finger was normal at less than 3 seconds. The diagnosis of hair tourniquet was suspected, and on closer examination, a hair was observed at the base of the groove. We applied hair removal cream (the active ingredients of which were calcium hydroxide and sodium hydroxide) to the base of the groove for 10 min followed by subsequent rubbing and washing with warm water. Immediately after this treatment, the hair was removed, the swelling decreased dramatically, and the finger became less tender. The patient went home, and the parents were instructed to apply a triple-antibiotic ointment to the affected site. Outpatient follow-up 1 week later was recommended, but the patient did not show up for the appointment. The parents were contacted by phone, and they informed the hospital that the swelling has resolved and that the finger had become totally normal.

4. Discussion

Hair tourniquet syndrome is an uncommon acquired pediatric emergency that was recognized long ago. If not treated immediately, this condition can lead to serious complications, such as limb ischemia, amputation or bone erosion [6–8]. This syndrome commonly affects the fingers, toes, and penis [9,10] but might also affect other body parts, such as the clitoris, labia, ear lobes, umbilicus, nipple, tongue or uvula [6,11–15]. When a patient presents



Figure 3 The circumferential groove in the area of the middle phalanx of the left ring finger causing redness and swelling due to a hair tourniquet (arrow).

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