

Hair-Thread Tourniquet Syndrome: A Case Report

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Abstract

Hair-thread tourniquet syndrome (HTTS) is a rare condition that occurs when hair strands wrap around body appendages, potentially leading to serious complications such as tissue loss. In this case report, we aim to present an HTTS case identified in a 2-year-old male child who presented to the emergency department with penile pain and dysuria. A two-year-old male patient presented to the emergency department with complaints of penile pain, redness, and burning sensation during urination that had persisted for 24 hours. Physical examination revealed edema, erythema, and circular constriction on the penile shaft. Detailed examination showed a hair strand wrapped around the penis shaft. The hair was removed by cutting under local anesthesia. Doppler ultrasonography confirmed normal circulation. The patient was discharged after four hours of observation as his complaints subsided. In infants with unexplained restlessness, one should be cautious about HTTS, and it should not be forgotten that areas where this syndrome may occur should be carefully examined.

Keywords: Hair-thread tourniquet syndrome, pediatric emergency, penis

Introduction

Hair-thread tourniquet syndrome (HTTS) is a rare, preventable condition that occurs when a body appendage is tightly wrapped with a hair strand or thread-like material, resulting in circulatory disturbance. It typically affects the genital area, fingers, and toes. Hair tourniquet syndrome, which occurs when hair or hair-like material becomes entangled around the coronal sulcus of the penis, is characterized by progressive circulatory disturbance. This condition can lead to serious complications, including glans necrosis. Other risk factors contributing to the development of the syndrome include circumcision, wearing tight clothing, poor hygiene, and low socioeconomic status. Early diagnosis and treatment of HTTS is vital because delayed diagnosis can result in serious complications such as ischemia, tissue necrosis, and even auto-amputation. However, complete recovery is possible with early diagnosis and appropriate treatment (1-3). In this case report, we aimed to present a rare case of hair tourniquet syndrome in a child who presented with penile pain, redness, and dysuria complaints.

Case Report

A 2-year-old male patient was brought to the emergency department by his mother with complaints of penile pain,

redness, and burning sensation during urination. According to his history, the complaints started approximately 24 hours ago, gradually intensified, and his restlessness increased in the last few hours. The patient had no significant medical history and no recent history of infection or trauma.

On physical examination; the patient was in good general condition, conscious, oriented, and cooperative. His vital signs were measured as follows; body temperature: 36.8°C, pulse: 98/min, respiratory rate: 22/min, blood pressure: 95/60 mmHg, oxygen saturation: 99%. Significant edema, erythema, and circular constriction were detected on the penile shaft. Detailed examination revealed the presence of a single hair strand completely encircling the penile shaft (Figure-1). The patient was diagnosed with hair-thread tourniquet syndrome. Under local anesthesia, the hair strand was carefully cut and removed using a scalpel and clamp. Post-procedure evaluation showed no signs of deep cuts or necrosis in the penile tissue. Doppler ultrasonography performed to assess circulation showed normal blood flow.

The patient was kept under observation in the emergency department for 4 hours after the procedure. During this time, significant improvement in pain and restlessness was observed. The patient, who developed no problems during the follow-up period and had normal urinary output, was discharged with necessary recommendations given to the family.



Figure 1. A single strand of hair completely surrounding the shaft of the penis

Discussion

Hair-thread tourniquet syndrome (HTTS) is an important clinical condition that particularly occurs in the newborn and infant period and can lead to serious complications if not diagnosed early. (4)

This syndrome is particularly seen in newborns and young children, and the affected anatomical regions vary according to age. In approximately 44.2% of cases reported in the literature, the penis is affected, in 40.2% the toes, and in 8.6% the fingers. When analyzed by age groups, fingers are generally affected up to 1.5 years of age, penis between 4 months and 6 years, and the genital area between 7-13 years (3). In our case, consistent with these data in the literature, penile hair tourniquet syndrome was observed in a 2-year-old male child.

Risk factors for the syndrome include telogen effluvium in postpartum mothers, poor hygiene conditions, low socioeconomic status, and tight clothing (5). Knowledge of these risk factors and informing families about them is important in taking preventive measures. Careful examination of extremities and the genital area, especially in the newborn period, is vital for early diagnosis. In our case, the family was of foreign nationality, had low income, and poor hygiene conditions.

Treatment approaches vary depending on the affected area and degree of tissue damage. Non-surgical methods include depilatory creams, mineral oil application, and hair/thread dissolving solutions, while advanced cases may require longitudinal incision or surgical removal of the tourniquet material (4, 6). Although the prognosis is generally good with early diagnosis and appropriate treatment, serious complications such as ischemia, tissue necrosis, auto-amputation, and secondary infections can be seen in delayed cases (5). In our case, successful treatment was achieved without any complications due to early

diagnosis and appropriate intervention.

HTTS shows that it is not sufficiently recognized by physicians due to its rare occurrence, and therefore delays in diagnosis and treatment may occur. (1) Especially in pediatric patients presenting with unexplained genital pain and restlessness, keeping this syndrome in mind and performing careful physical examination is critically important. Early diagnosis and treatment in HTTS is crucial to prevent complications. If cases are not appropriately treated in a timely manner, serious clinical conditions such as finger, penis, or clitoris amputation may develop (2).

Conclusion

In infants with unexplained restlessness, one should be cautious about HTTS, and it should not be forgotten that areas where this syndrome may occur should be carefully examined.

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