



A genital hair tourniquet syndrome: Case report and review of the literature

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Abstract The genital hair tourniquet syndrome in children is an uncommon condition. Herein, a case of 9-year-old girl with a clitoral hair tourniquet is described, and review of the literature of genital tourniquets is presented, with a discussion about potential etiology by current literature.

Key Words Hair tourniquet; clitoris; genital pain.

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Introduction

Hair tourniquet of clitoris is very rare situation, and early diagnosis is important to prevent exposing girls to potential risk of strangulation of this appendage organ. Herein, we report a case of 9-year-old girl admitted to our outpatient department with genital pain. Possible reasons and mechanisms are discussed.

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Case report

A 9-year-old girl was referred to our outpatient department for evaluation, because of a 2-day history of genital pain during walking and sitting. No history of genital trauma or abuse was informed from patient and her mother. Patient's history revealed the child's scratching habits. Vital signs were normal. On physical examination, external genitalia were detected in normal appearing according to Tanner staging. Meticulous examination revealed a hyperemic and painless mass 5 mm in diameter on the tip of clitoris, wrapped by own hair (Fig. 1). There was

also present cotton fibers associated with the hair. Any knot or rotation of hair was not determined in the surrounded clitoris. The tourniquet hair was removed from clitoris using a fine forceps under sedation, resulting in turn to

normal vascular circulation. No additional investigation was performed and patient discharged uneventful.



Fig. 1: Photograph showing the hair (black arrow) which cause to tourniquet on tip of the clitoris (white arrow).

Discussion

The hair tourniquet syndrome is caused by a strand of hair or tightly surrounded around an appendage such as toes, phallus, fingers, clitoris, or labiums. The first description of a hair tourniquet was in 17th century, and the first documented case was formally published in Lancet in 1832 [1,2].

Hair tourniquet of an appendage organ is often accepted to be accidental; however, there have been different reason for intentional hair tourniquet syndrome such as child abuse, poor

genital hygiene, preventing enuresis and some superstitious beliefs or ritual background [3-6].

When an organ wrapped by a hair fiber, it causes to constrictive lymphatic obstruction, edema of the soft tissue, and secondary vascular obstruction of venous outflow and arterial perfusion. Once the tissue becomes engorged and painful, the offending hair or fiber can be difficult to see. If it isn't being aware of this syndrome, progressive ischemic necrosis with amputation can occur as a result [2,4,7]. In the treatment, the entire hair or fiber must be

removed, and instances of double and triple wrapping of hair have been reported [8].

Genital hair tourniquet syndrome, involvement of penis in boys, and clitoris or labium in girls, was most frequently reported [1-4,6,9,10]. There have been reported to date approximately 12 cases of the clitoris hair tourniquet syndrome. Several etiologies proposed to explain the formation of clitoral hair tourniquet syndrome such as accidentally self-stimulatory or through abnormal behavior disorders [7,11]. Although no case with clitoris tourniquet syndrome due to child abuse reported in literature, there have been speculated that clitoral tourniquet syndrome should be thought because of shaking and battering and proposed that physicians when encountered with a girl with this condition consider child abuse [12].

The exact mechanism of wrapping hair thread of an appendage organ remain unknown, several factors may contribute this situation. Kuo et al. [2] have proposed that the physical characteristics of hair make it an effective tourniquet because it is thin and has high tensile strength. Alpert et al. [5] have stated that the elastic properties cause hair to stretch when wet, and to shrink and constrict as it dries. In our case, we found on physical examination that

short cotton fibers adhered to the wrapped hair strand. It may be speculated that cotton fibers of girl's underwear may adhered to hair strand, and may lose it's sliding property. Additionally, hair tourniquet syndrome may have been occurred as a result of the scratching by circular movements owing to child's habit.

In conclusion clitoris hair tourniquet syndrome is rare condition. It should be suspected in girls with genital pain. If delaying in diagnosis may lead to necrosis a part of affected clitoris. Although most of cases are accidental, however behavioral disorders and child abuse in etiology should be considered.

CONFLICT OF INTEREST

None declared.

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