

Case Report

Hair tourniquet syndrome of labia minora in 14 year teen: a rare case report

Kumari Nutan*, Ajay Kumar Jain

Department of Surgery, Peoples College of Medical Sciences and Research Centre, Bhopal, Madhya Pradesh, India

Received: 28 December 2019

Received: 12 February 2020

Accepted: 28 February 2020

***Correspondence:**

Dr. Kumari Nutan,

E-mail: 3009drnutan@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Hair tourniquet syndrome (HTS) is rare clinical phenomenon in which body appendage is circumferentially entangled by string of hair leading to ischemia and necrosis or even autoamputation of the appendage. HTS commonly affects toes, finger or genitalia. Early diagnosis and prompt intervention lead to good outcome. This article presents a case of hair tourniquet syndrome of labia minora, a rare presentation in 14 year child.

Keywords: Hair tourniquet syndrome, Labia minora cyst, Strangulation

INTRODUCTION

Hair tourniquet syndrome (HTS) is a relatively rare condition in which a strand of hair wraps around and strangulates an appendage such as toe, finger, or genitals, typically with an end-artery such as a digit, causing a “compartment syndrome-like” situation and the possibility of ischaemic gangrene.¹ There are a number of pseudonyms including tourniquet syndrome and toe tourniquet syndrome.² It frequently affects paediatric population. In this article authors are presenting a case report of hair tourniquet syndrome of labia minora in 14 years old girl child.

CASE REPORT

A previously healthy 14 year old girl came to surgery OPD, PCMS and RC with chief complaint of pain and swelling in vulva since 3 days. On local examination, on inspection of the perineum, left labia minora showed a small, round lump 1.5 cm diameter and a single hair strangulation at the base of the lump (Figure 1). The lump was very tender. After excision and removal of the hair by cutting. A linear ulcer was seen at strangulation site

(Figure 2). The pain and swelling were relieved immediately (Figure 3).



Figure 1: Pre op clinical photograph of hair tourniquet in labia.

Local treatment with topical antibiotic for 5-7 days was given. Authors speculated that the hair had originated from the patient's head on the basis of its length and

colour (Figure 4). On follow-up examination 5 days after the division of hair tourniquet, the labia anatomy had returned to normal (Figure 5).



Figure 2: After removal of hair from, note the ulcer over the base.



Figure 3: Immediately after removal of hair, release of the tourniquet labia returned to normal.



Figure 4: Hair removed from the lesion forming the tourniquet.



Figure 5: Follow up of the hair tourniquet syndrome.

DISCUSSION

The hair tourniquet syndrome (HTS) is a rare disorder. This syndrome has been described to involve the fingers, the toes and even the genitals.¹ HTS is an unusual condition that occurs when a strand of hair wraps tightly around an appendage decreasing lymphatic and venous drainage. This subsequently causes pain, oedema and ischemia of the appendage. Progressive swelling can obscure the hair and make diagnosis difficult. Ultimately if not treated, tissue necrosis and amputation can occur.³

First description of a tissue strangulated by a thread of hair was described by Guillimeau in 1612 and the first documented report of this condition was published in Lancet in 1832.^{4,5}

HTS as affecting the following structures

- Digits: Hand digits (24-47%)^{2,6} Toes (25-43)⁶
- External genitalia: Penis (44%)¹, Clitoris (6%)^{2,7}, labia⁸
- Head and neck (tongue, uvula, and neck).¹

Most cases of HTS occur in young children. Observed age range of reported cases with finger HTS is between first days of life up to 19 months and penile involvement is 4 months to 6 years.³ Labial and clitoral wrapping have been described in an older age group (age 7-13 years).^{8,9}

The high tensile strength of hair makes it an effective tourniquet and hairs are stretched easily when wet and contract when dry and circular configuration results in hydrogen bonds giving a firmer hold and may cause strangulation of appendage which if left untreated can lead to ischemia and autoamputation of the appendage over hours to weeks.^{2,4,10,11} Early diagnosis and prompt intervention can save the appendage from tissue ischemia, necrosis and autoamputation by removing hair string.^{2,12}

Differential diagnosis of HTS includes infection, trauma, insect bite, allergic or irritant dermatitis, palmoplantar keratoderma and congenital constriction bands, ainhum.²

CONCLUSION

In children it should kept in differential diagnosis purpose of the presentation is to make aware. Early diagnosis and prompt intervention prevents the tissue ischemia and necrosis of the tissue involved.

ACKNOWLEDGEMENTS

Authors want to thanks consultant Dr. Ajay Jain sir, (Mch Paediatric surgeon) for his constant support, guidance and encouragement and also thanks Peoples of college for giving this platform.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Saad AZ, Purcell EM, McCann JJ. Hair-thread tourniquet syndrome in an infant with bony erosion: a case report, literature review, and meta-analysis. *Ann Plastic Surg.* 2006 Oct 1;57(4):447-52.
2. Sivathasan N, Vijayarajan L. Hair-thread tourniquet syndrome: a case report and literature review. *Case Rep Medi.* 2012;2012.
3. Barton DJ, Sloan GM, Nichter LS, Reinisch JF. Hair-thread tourniquet syndrome. *Pediatrics.* 1988 Dec 1;82(6):925-8.
4. Kuo JH, Smith LM, Berkowitz CD. A hair tourniquet resulting in strangulation and amputation of the clitoris. *Obstetr Gynecol.* 2002 May 1;99(5):939-41.
5. Klusmann A, Lenard HG. Tourniquet syndrome-accident or abuse?. *Eur J Pediatr.* 2004 Aug 1;163(8):495-8.
6. Lohana P, Vashishta GN, Price N. Toe-tourniquet syndrome: a diagnostic dilemma!. *Ann Royal Coll Surg Engl.* 2006 Jul;88(4):W6.
7. Alverson B. A genital hair tourniquet in a 9-year-old girl. *Pediatr Emerg Care.* 2007 Mar 1;22(3):169-70.
8. Bacon JL, Burgis JT. Hair thread tourniquet syndrome in adolescents: a presentation and review of the literature. *J Pediatr Adolesc Gynecol.* 2005 Jun 1;18(3):155-6.
9. Pomeranz M, Schachter B, Capua T, Beyth Y. Hair-thread tourniquet syndrome of labia minor. *J Pediatr Adolesc Gynecol.* 2009 Oct 1;22(5):e111-3.
10. Summers JL, Guira AC. Hair strangulation of the external genitalia: report of two cases. *Ohio State Med J.* 1973 Sep;69(9):672-23.
11. Sunil TM. The hair-thread-tourniquet syndrome-report of an unusual presentation of this rare condition. *Hand Surg.* 2001 Dec;6(02):231-3.
12. Corazza M, Carlà E, Altieri E, Virgili A. What syndrome is this?. *Pediatr Dermatol.* 2002;19(6):555-6.

Cite this article as: Kumari N, Kumar A. Jain Hair tourniquet syndrome of labia minora in 14 year teen: A rare case report. *Int J Res Med Sci* 2020;8:1548-50.