



## A CASE REPORT OF PSEUDO-LARVA MIGRANTS WITH HAIR FRAGMENTS ON THE FOOT

<b>Tran Thi Hue Van</b>	University of Medicine and Pharmacy Ho Chi Minh City
<b>Phan Anh Tuan</b>	University of Medicine and Pharmacy Ho Chi Minh City
<b>Nguyen Thanh Liem</b>	University of Medicine and Pharmacy Ho Chi Minh City
<b>Huynh Hong Quang</b>	Institute of Malariology, Parasitology and Entomology, Quy Nhon City
<b>Nguyen Thu Huong*</b>	National Institute of Malariology, Parasitology and Entomology, Ministry of Health Vietnam *Corresponding Author

### ABSTRACT

Larvae that migrate in the skin or moving larvae are a common skin disease in the tropics described more than 100 years ago. Cause may be due to cutaneous larva migrans of some nematode such as *Ancylostoma braziliense*, *Ancylostoma caninum*, *Gnathostoma spinigerum* or *Strongyloides stercoralis*. Larvae that migrate are characterized by erythema, sinus-like, itchy and subacute scabies due to accidental penetration and movement of nematode larvae. Most cases of cutaneous larva migrans are found in the tropics, including the tropics, including Vietnam. The case reported here is a pediatrician, 2 year old boy living in Thu Dau Mot Town, Binh Duong Province, the patient visited the Clinical Department of Tropical Disease Hospital having image on the skin with red, like a snake crawling, about 3.5 cm long, the end of this line has a short black. Human hair fragments penetrating the skin may produce a variety of different clinical pictures, one of the most peculiar of these resembles larva migrans. Clinicians should examine and analyze the specimen carefully to treat in time.

**KEYWORDS** : Cutaneous larva migrans, hair fragments, nematode

### 1. INTRODUCTION

In the tropics and subtropics, migratory skin syndrome is an infection caused by several hookworm larvae from animals *Ancylostoma braziliense*, *Ancylostoma caninum*, *Gnathostoma spinigerum*, or *Strongyloides stercoralis* [1][7][8]. When examining a patient with skin lesions characteristic of a zigzag pattern, the physician would think the disease was the result of a skin-to-skin infection of the above-mentioned nematode larvae. Submucosal larvae are common in Southeast Asia, South America and Africa. In this report, we report a case of a 2 year-old boy patient with skin lesions that resembles larvae that migrate under the skin caused by a hair.

### 2. CASEREPORT

A 2-year-old boy presented with a rapid moving, S-shaped linear red lesion on the lateral side of his right foot for one week (Fig.1). No specific symptoms were noted. There was no preceding trauma or surgical wound. There was no traveling history recently. The boy lived with family in Thu Dau Mot town, Binh Duong province, Vietnam.

History and pediatric history, boy has been vaccinated full vaccine, breastfed babies. He is often placed on a mat under the ground, or placed in a cradle. Currently, the house has a dog and cat friendly. According to his mother, two weeks ago, there was a red line, short and long and spiral on his feet.

General examination of height and weight of normal children. Pediatric patients do not have fever, no cough, no peripheral nodule, normal condition.

On examining his feet, we found an about 3,5 cm long wavy superficial burrow on the lateral aspect of the left foot. At its lower end, there was a thin dark material 0,5 cm in length. According to the statement of his mother, the material rapidly moved in past one week.

The skin biopsy was performed at the area where the thin dark material was found and the tissue specimen was stain with H&E stain. During the biopsy, a dark hair fragment was found which confirmed by KOH examination. Then the hair fragment was removed.



**Fig.1. A rapid moving, long wavy red lesion on the lateral side of the right foot**

### 3. DISCUSSION

Transplacental larvae may be present in all genders, ages and races if they have a history of exposure or contact with larvae of some roundworms such as animal nematodes, or strongyloides. The larvae of migration are common in the tropics and subtropics, including Vietnam. People may be infected with hookworm larvae when walking on sandy beaches or in areas where larvae or children are exposed to contaminated soils or where the larvae move away (ectopic foci). The larva migrates beneath the surface of the skin and digs into tunnels in the direction of their movement with red, flushed appearance on the skin, [1][7][8]. Common locations are the buttocks, arms, neck, face and feet, legs, or any part of the body exposed to the larvae.. The children from 8 months to 13 months may also be infected with hookworm dogs and cats [2][6]. So, children with a swirling red road, living in a family with cats and dogs, often crawl under the ground, clinicians often suspect skin disease caused by larvae of worms from dogs/cats.

Penetration of human hair with moving under the skin has been reported in the Literature [3,4] and designated as "imbedded hair resembling larva migrans", "bristle migrans", "hair fragment in the skin resembling larva migrans"1 or "burrowing hair". The hair transitions in the skin also create a tunnel and produce cutaneous pili migrans local inflammatory responses like those that can be persistent, widespread or intermittent, have been documented in

the British Deruelle R. et al (2001) described the imaging of imbedded hair in a child with a lesion on the foot similar to our case [3] Other authors in the world have described the image of the hair transdermal at the back of the neck, under the feet, in the forearm through the literature of the literature [3],[4].

In this case after surgery, the test results indicate that this is a fragment of hair because no hair follicles are found, a diameter of 52 mcm, medullary diameter of 5.2 mcm, medullary index of 0.1. To distinguish between fur and human fur, the ratio is based on the medullary index (the ratio between the diameter of the pulp and the diameter of the hair). Accordingly, the human feather index of 0.1-0.25 depending on the location of the hair; [about 0.1: hair, about 0.16: hand hair, about 0.25: beard]; Fur index is greater, from 0.44 to 0.70, depending on the hair of each animal [about 0.44: horse hair, about 0.45: dog fur; about 0.66: pig hair ...] [5].

Thus, the test results show that the cause of the lesion-like lesions that move under the skin of the above case is a fragment of human hair. Hair is mainly composed of horn, when broken short is hard. For a 2-year-old baby, soft, thin baby's skin may be subjected to a fragment of hair under the skin, causing local lesions such as can occur as in this case. Damage to the zigzag line may be due to the movement of the baby as it moves the farther away from the original position. In this case, after the operation, the family counselor and the local skin disinfectant with a complete antibiotic and wound treatment.

In conclusion, this is an uncommon condition and should be put into the differential diagnosis of larva migrans especially in children. Treatment is dependent on clinical presentations. Sometimes, the hairs can pull out easily. Rarely, it needs surgery to remove the hair such as our case. As a result, clinicians should be aware of lesions that are similar to those of the larvae that migrate in the skin as roundworms are transmitted from animals to humans but sometimes also due to other causes.

## REFERENCES

1. Balfour E, Zalka A, Lazova R (2002). Cutaneous larva migrans with parts of the larva in the epidermis. *Cutis*. 2002;69:368-70.
2. Black MD, Grove DI, Butcher AR, Warren LJ (2010). Cutaneous larva migrans in infants in the Adelaide Hills. *Australas J Dermatol*;51(4):281-4.
3. Deruelle R., Benoit Catteau, F. Langrand, and F. Piette (2001). Pseudo-larva migrans with imbedded hair. *Nouvelles Dermatologiques* 20(3).
4. Eero A. Lehmuskallio et al., (1975). Hair fragment in the skin resembling larva migrans. *British Journal of Dermatology* 93(3):349-50.
5. Kshirsagar S.V. et al (2009). Comparative Study of Human and Animal Hair in Relation with Diameter and Medullary Index. *Indian Journal of Forensic Medicine and Pathology*;2(3):105-8
6. Paul Y, Singh J (1994). Cutaneous larva migrans in an infant. *Indian Pediatr*;31:1089-91.
7. Feldmeier H, Schuster A., (2012), Minireview: Hookworm-related cutaneous larva migrans. *Eur J Clin Microbiol Infect Dis*. 2012 Jun;31(6):915-8.
8. Veraldi S, Persico MC, Francia C, Schianchi R. (2013). Chronic hookworm related cutaneous larva migrans. *Int J Infect Dis*. 2013 Apr;17(4):e277-9.