CUTANEOUS LARVA MIGRANS – DIAGNOSTIC DIFFICULTIES IN THE NON-ENDEMIC AREA. CASE REPORT

ANA-MARIA PELIN[1], COSTINELA GEORGESCU[2], VICTORIŢA ŞTEFĂNESCU[3], GABRIELA BĂLAN[4]

[1,2,3,4]*"Dunărea de Jos" University of Galaţi*

Keywords: *cutaneous larva migrans, albendazole, doxycycline*

Abstract: *Patient aged 68 years, chronic hypertensive, came to the medical office due to an intensely pruritic, serpiginous lesion that had occurred within the hand's thenar eminence approximately 10 days before. The patient recounts that further to the agricultural works (vineyard harvesting) he noticed the occurrence of a 2-3 mm papule within his hand's thenar eminence accompanied by intense itching. An inflammatory, serpiginous tract subsequently occurred which grew by approximately 1 cm per day. Further to the clinical examination performed by the family physician, the dermatologist and the infectious diseases consultant, on the basis of the clinical manifestations and the lesion progression, combined with the paraclinical examination, the cutaneous larva migrans diagnostic was established. Conclusions: The presentation of the cutaneous larva migrans cases would contribute to an early and correct diagnostic of such cases of parasitosis that are specific to tropical areas and which are occasionally encountered in non-endemic areas such as Europe.*

INTRODUCTION

The Cutaneous Larva Migrans is an eruption having a characteristic clinical aspect caused by the hookworms from animals and humans such as Ancylostoma caninum and Ancylostoma braziliense.(1) The Cutaneous Larva Migrans (CLM) is clinically characterized by the erythematous, serpiginous and intensely pruritic tracts, but also by disseminated or eczematized eruptions mainly located in the feet.(2) Although the cutaneous larva migrans especially appears in the tropical areas, isolated cases have been described in Europe with the travellers coming from such areas. The disease is also likely to be caused by the climatic changes occurring in non-endemic areas.(3) The treatment is based on oral medicines (Albendazole or Ivermectin) or topical application of Thiabenzadole.(4-7) Larvas cannot penetrate the basal membrane of the human skin but remain confined to the epiderma and thus do not complete their lifecycle. Although CLM is a self-confining disease, it might last for months unless promptly treated.(8-9) In Europe, cases are rare and occur in patients after having worked in agriculture or sunbathed on the river bank.(10-15)

The Cutaneous Larva Migrans infections may be grouped into several types, depending on the species responsible for the lesions and their clinical aspect.(16)

Type 1: Animal hookworms: CLM caused by the Ancylostoma duodenale and Ancylostoma caninum is characterized by well-defined tracts extending a few centimetres from their point of origin. These larvae migrate at a rate of 3.5 to 5 cm per day. The infection may be chronic and last for months.(16)

Type 2: Human Hookworms: Ancylostoma duodenale and Necator americanus cause short tracts and intense itching. This type of larva migrans is also known as the "ground itch". The parasites might migrate to the lungs and digestive tube where they turn into adults.(16,17)

Type 3 Strongyloides stercoralis: Human strongyloides cause a CLM type known as "currens larva".(18) The lesions start in the perineum and advance towards the extremities and other areas.(18,19)

Type 4 Animal Strongyloides: CLM caused by animal strongyloides is variable. Certain lesions are similar to the ones noticed in the Strongyloides stercoralis infection. Infections caused by Strongyloides myopotomi and Strongyloides procyonis cause lesions resembling a typical polymorphic erythema under indirect light examination.

Type 5 Gnathostoma: CLM caused by Gnathostoma is usually confined to Japan, Thailand and more rarely to other South-East Asia countries. It might occur as a result of the migration of the ingested larva from the intestine to the skin or by the direct penetration of the parasite while handling animal meat.

Type 6 Insects larvae: Certain species of Gastrophi and Hypoderma might migrate by causing linear lesions sometimes called "myiasis linearis". Larvae may easily be viewed by whitening the skin by slight pressure with a magnifying glass or by rubbing the skin with mineral oil.

CASE REPORT

Patient aged 68 years, chronic hypertensive, came to the medical office due to a intensely pruritic serpiginous lesion that had occurred within the hand's thenar eminence approximately 10 days before. The patient recounts that further to the agricultural works (vineyard harvesting) he noticed the occurrence of a 2-3 mm papule within his hand's thenar eminence accompanied by intense itching. An inflammatory, serpiginous tract subsequently occurred, which grew by approximately 1 cm per day. During the dermatological examination the patient had an eczematized, inflammatory, painful and linear eruption measuring approximately 10 cm (figure no. 1). The general clinical examination performed on the equipment was normal, tension values ranged within normal values. Routine blood and biochemical tests were normal. Coproparasitological exam tested negative for parasites and the pulmonary X-ray was normal.

[2]Corresponding author: Costinela Georgescu, Str. Războieni, Nr. 19A, Cod 800114, Galaţi, Judeţul Galaţi, România, E-mail: costinelag@gmail.com, Phone: +40745 384969

Article received on 18.01.2017 and accepted for publication on 23.02.2017
ACTA MEDICA TRANSILVANICA March 2017;22(1):52-53

Figure no. 1. Serpiginous linear eruption located on the thenar eminence

Figure no. 2. Lesion appearance after medicine treatment

The diagnostic of Cutaneous Larva Migrans was established on the basis of anamnesis and clinical examination. The patient was treated with Albendazole 400 mg/day for 5 days and required treatment continuation for another five days with Doxycycline because, despite the gradual disappearance of the serpiginous tract, the area remained intensely eczematized due to the itch and to attempts made by the patient to find the larva (figure no. 2).

DISCUSSIONS

Cutaneous Larva Migrans is frequent in the tropical and subtropical countries, yet isolated cases might occur in non-endemic areas such as Europe. The specific host is the dog or the cat who eliminated via faecal the nematode eggs. Under moisture and heat the eggs turn into larvae and penetrate the epiderma. The nematode larvae penetrate the epiderma but they are unable to pass by the dermoepidermic junction and go deeper, systemic complications being absent. The disease is self-confining in the absence of treatment to weeks or months since humans are not the usual host of the nematode, which cannot complete its lifecycle. Cutaneous biopsy is not considered necessary as the larva advances beyond the end of the eruption. Treatment is required due to the long evolution periods and itching.

CONCLUSIONS

The Cutaneous Larva Migrans is a rare disease in Europe. The presentation of the cutaneous larva migrans cases would contribute to an early and correct diagnostic of such cases of parasitosis that are specific to tropical areas and they are occasionally encountered in Romania.

REFERENCES

1. Baple K, Clayton J. BMJ Case Rep. Hookworm-related cutaneous larva migrans acquired in the UK. 2015 Nov 13;2015. pii: bcr2015210165. doi: 10.1136/bcr-2015-210165.
2. Veraldi S, Persico MC, Francia C, Nazzaro G, Gianotti R. Follicular cutaneous larva migrans: a report of three cases and review of the literature. Int J Dermatol. 2013 Mar;52(3):327-30. doi: 10.1111/j.1365-4632.2012.05723.x.
3. Oanta MI, Oanta S. Cutaneous larva migrans, DermatoVenerol. (Buc.). 2011:56:183-190.
4. Vanhaecke C, Caumes É. Treatment of hookworm-related cutaneous larva migrans: albendazole or ivermectin? Ann Dermatol Venereol. 2012 Aug-Sep;139(8-9):518-20. doi: 10.1016/j.annder.2012.05.022. Epub 2012 Jul 3.
5. Heukelbach J, Feldmeier H. Epidemiological and clinical characteristics of hookworm-related cutaneous larva migrans. Lancet Infect Dis. 2008 May;8(5):302-9. doi: 10.1016/S1473-3099(08)70098-7.
6. Schuster A, Lesshafft H, Reichert F, Talhari S, de Oliveira SG, Ignatius R, Feldmeier H. Hookworm-related cutaneous larva migrans in northern Brazil: resolution of clinical pathology after a single dose of ivermectin. Clin Infect Dis. 2013 Oct;57(8):1155-7. doi: 10.1093/cid/cit440. Epub 2013 Jun 27.
7. Shoop WL, Michael BF, Soll MD, Clark JN. Efficacy of an ivermectin and pyrantel pamoate combination against adult hookworm, Ancylostoma braziliense, in dogs". Aust Vet J. 1996;73(3):84–85.doi:10.1111/j.1751-0813.1996.tb09981.x. PMID 8660218.
8. Veraldi S, Persico MC, Francia C, Schianchi R. Chronic hookworm-related cutaneous larva migrans. Int J Infect Dis. 2013 Apr;17(4):e277-9. doi: 10.1016/j.ijid.2012.11.002. Epub 2012 Dec 5.
9. Tomich EB, Knutson T, Welsh L Hookworm-related cutaneous larva migrans. CJEM. 2010 Sep;12(5):446.
10. Müller-Stöver I, Richter J, Häussinger D(Cutaneous larva migrans (creeping eruption) acquired in Germany). Dtsch Med Wochenschr. 2010 Apr;135(17):859-61. doi: 10.1055/s-0030-1253669. Epub 2010 Apr 20.
11. Zimmerman RF, Belanger ES, Pfeiffer CD. Skin infections in returned travelers: an update. Curr Infect Dis Rep. 2015 Mar;17(3):467. doi: 10.1007/s11908-015-0467-8.
12. Landolt L, Kovari H. (CME. Larva migrans). Praxis (Bern 1994). 2014 Dec 10;103(25):1491-8. doi: 10.1024/1661-8157/a001859.
13. Romero-Callejas E, Rendón-Franco E, Villanueva-García C, Osorio-Sarabia D, Muñoz-García CI. Risk of cutaneous larva migrans and other zoonotic parasites infections due to feral cats from a touristic tropical park. Travel Med Infect Dis. 2014 Nov-Dec;12(6 Pt A):684-6. doi: 10.1016/j.tmaid.2014.10.018. Epub 2014 Nov 1.
14. Criado PR1, Belda W Jr, Vasconcellos C, Silva CS. Cutaneous larva migrans: a bad souvenir from the vacation. Dermatol Online J. 2012 Jun 15;18(6):11.
15. Gutierrez Y. Diagnostic Pathology of Parasitic Infections with Clinical Correlations, Second edn, New York: Oxford University Press; 2000. p. 343-353.
16. Gilman RH. Intestinal nematodes that migrate through skin and lung. In: Strickland GT ed. Hunter's Tropical Medicine and Emerging Infectious Disease, 8th edn. Philadelphia: Sounders; 2000. p. 730-735.
17. Bryceson ADM, Hay RJ. Parasitic worms and protozoa. In: Champion RH, Burton JL, Burns DA, et al eds. Rook/ Wilkinson / Ebling Textbook of Dermatology, 6th edn. Vol 2, Oxford: Blackwell Sciences; 1999. p. 971-972.
18. Arthur RP, Shelly WB. Larva currens. A distinctive variant of cutaneous larva migrans due to Strongyloides stercoralis. Arch Dermatol. 1958;78:186-190.
19. Stone OJ, Newell GB, Mullins JF. Cutaneous Strongyloidiasis: larva currens. Arch Dermatol. 1972;106:734-736.