

Case Study

A CASE REPORT OF CUTANEOUS LARVAE MIGRANS WITH ASSOCIATED FUNGAL SUPERINFECTION IN UYO, NIGERIA

ABSTRACT

Aims: To describe a case of Cutaneous Larvae Migrans (CLM) with associated fungal and bacterial superinfection seen in the Tuberculosis and Infectious Disease Unit of University of Uyo Teaching Hospital.

Presentation of case: A 31-year old male reported to the Tuberculosis and Infectious Disease Unit with a history of creeping eruptions, itching and right foot swelling following gardening. Investigations revealed associated bacterial and fungal super infection. Symptoms resolved after treatment with Albendazole, antibiotics and antifungals.

Discussion: Although CLM is self-limiting, non-recognition and home treatment using local herbal remedies may lead to associated superinfection, mask the presentation and lead to delayed diagnosis.

Conclusion: CLM is not frequently reported in the tropics and primary health care workers are likely unfamiliar with its presentation, which could delay the treatment. Associated use of local herbal remedies lead to superinfection as seen in the index case may lead to missed and delayed diagnosis. This calls for increased awareness of the condition and its treatment for primary care workers.

Keywords: [Creeping eruption, Cutaneous Larvae Migrans, fungal superinfection]

1. INTRODUCTION (ARIAL, BOLD, 11 FONT, LEFT ALIGNED, CAPS)

The first case described as Cutaneous Larvae Migrans (CLM) was by Lee in 1874. (1) Although CLM is a tropical disease, it is not frequently reported in these regions, rather it is often reported by physicians in the western countries as an illness occurring amongst traveller's returning from endemic areas. This has earned it the name traveller's itch amongst other names like creeping eruptions, plumber's itch, sand worm eruption and the most recent suggestion of Hookworm-related dermatosis. (2) It is caused by the hookworm *Ancylostoma* infecting dogs and cats. The global burden of this disease dogs and cats is unknown. (3) Like other Neglected Tropical Diseases (NTDs), awareness is low among the general population. (4) The low levels of awareness of the disease however, does not imply a low prevalence as the burden of disease in endemic regions remains unknown because the disease is not reported regularly. (3)

2. CASE PRESENTATION

A 31 year old male, was referred from a primary care centre with a 2-day history of right foot itching and right leg swelling. There was a history of moving sensation and associated swelling and itching of the right upper limbs. He was reported to have been working barefoot outdoors in a waterlogged yard. The household has a dog that runs freely in the yard. There was no history of fever, pulmonary or intestinal symptoms. Patient was not a known diabetic, but had a positive history of diabetes in the mother.

33 On examination, a swollen right foot, with dilated visible veins and
34 gangrenous/necrotic tissue were seen. There were serpinginous eruptions and discharge
35 from the plantar surface of the left leg. The associated intensely pruritic lesion characteristic
36 of CLM was noted.(5) However, the clinical picture was altered by the gangrenous-like
37 ulceration between the 3rd and 4th inter digital clefts of the right foot. (Figures 1&2) Similar
38 serpinginous eruptions were seen in the interdigital clefts in the right upper limbs. (Figure
39 3) Patient admitted to a history of local herbal remedies applied at the site of the lesion.

40 The clinical picture of swollen right foot, with dilated visible veins gangrenous-like
41 necrotic tissue led to a further investigations to rule out diabetes and fungal infection. The
42 results showed that fasting blood sugar (3.6mmol/l) was normal, wound swab for
43 microscopy, culture and sensitivity(m/c/s) yielded a mixed growth of *Pseudomonas*
44 *aeruginosa* and *Staphylococcus aureus*. Retroviral serology for HIV was negative, Skin snip
45 showed no microfilaria for both night and day. Skin scrapping and microscopy showed
46 presence of epithelial cells, in keeping with *Tinea pedis*.

47 A final diagnosis of CLM with bacterial and fungal superinfection was made.
48 Albendazole 400mg bd for 5 days, antibiotics and an anti-itch cream was also administered.
49 He was referred to and co-managed with Dermatology Clinic.. He received Ketoconazole
50 tablets 200mg daily and clotrimazole cream. Patient recovered and was seen two weeks
51 later. However, he was still itching and the anti histamine was continued.



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Fig. 1a The affected foot showing serpiginous eruption and discharging bullae



Figure 1b The affected foot showing serpiginous eruption and discharging bullae



Fig. 2. The right foot showing gangrenous-like /necrotic tissue



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Fig. 3 Serpiginuous tracking seen in the upper limb

3. DISCUSSION

Aetiologically, hookworm-related CLM (HrCLM) is found to be commonest cause of creeping eruptions. (6) The parasite's eggs are passed from animal feces into warm, moist soil or sand, where the larvae hatch. (7) Transmission occurs when skin comes in direct contact with contaminated soil or sand. In humans, disease is limited to the epidermis because the larvae are unable to penetrate the basement membrane to invade the dermis, so they are forced to wander in the epidermis creating the creeping eruptions. This leads to intense itching and excoriations induced by scratching facilitate bacterial super infection of the lesion. (6) HrCLM is a self-limiting disease, the creeping eruptions and intense pruritus may persist for months. (2)

Although the diagnosis is essentially clinical, cases could be missed due to the health workers being unfamiliar with the disease. The degree of misdiagnosis or inappropriate treatment has been seen to be as high as 58% of travelers returning from endemic areas with CLM. (2) In the tropics where the disease is endemic, prompt diagnosis and treatment can be delayed by the use of local herbal remedies. Application of these herbal remedies could mask the clinical picture as seen in the index case. However, the characteristic serpiginous lesion and associated intensely pruritic lesion is a characteristic feature of CLM. (5) Though rare, investigation should also be performed for systemic signs including peripheral eosinophilia, migratory pulmonary infiltrates and increased IgE levels.

Though the diagnosis is usually clinical, it is possible that cases are missed due to the health workers being unfamiliar with the disease. There are low levels of awareness of NTDs generally in Nigeria, despite the endemicity of most of these diseases. (4) The index case highlights the need for high index of suspicion and need for early recognition and prompt diagnosis in endemic countries. However, the paucity of report of this case in tropical regions suggests unfamiliarity with the disease by the primary care workers.

4. CONCLUSION

CLM is not frequently reported in the tropics and thus is unlikely to be recognized by health care workers, especially the primary care workers, thus delaying the treatment. Low levels of awareness of NTDs including CLM in Nigeria could lead to misdiagnosis and delayed treatment. The use of local herbal remedies to treat associated symptoms may lead to superinfection as seen in the index case. This calls for increased awareness of the condition and its treatment for primary care workers.

CONSENT (WHERE EVER APPLICABLE)

All authors declare that written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editorial office/Chief Editor/Editorial Board members of this journal.

ETHICAL APPROVAL (WHERE EVER APPLICABLE)

The authors obtained ethical approval for publication of this case from the ethical committee of the University of Uyo Teaching Hospital. A scanned copy of the approval granted is attached.

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