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CASE REPORT

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A case report on rare finding of microfilaria in pus sample of an ulcer over elephantiasis leg

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Key Clinical Message

Skin ulcerations are a significant cause of morbidity and can be challenging to manage. Among the various causes of chronic non-healing ulcers, lymphedema is also considered a possible diagnosis in countries such as Nepal. Lymphatic filariasis has been a significant public health issue in endemic areas. Wuchereria bancrofti is a common nematode parasite that causes lymphatic filariasis. Excessive retention of lymphatic fluid in the interstitial compartment can cause localized tissue swelling, known as lymphedema, which is caused by impaired lymphatic drainage. Microfilariae can be detected in peripheral blood, body fluids, and needle aspirates. Microfilaria is not commonly found in ulcers on elephantiasis legs. We discuss here a case of 73-year-old women with elephantiasis legs with pus discharging ulcers in the thighs. Microscopic examination of pus discharge revealed microfilaria which highlights the importance of pus examination as diagnostic modality in endemic countries.

KEYWORDS

chronic ulcer, elephantiasis, filariasis, microfilaria

1 | INTRODUCTION

Chronic non-healing ulcers pose a significant challenge for healthcare professionals in the Departments of Dermatology and Surgery. While venous disorders account for the majority of cases, approximately 30% of chronic ulcers result from various vascular disorders, including diabetes, malignant ulcers, traumatic ulcers, and chronic lymphedema.[1] Lymphatic filariasis remains a public health concern in several regions of Southeast Asia. While a decline in prevalence is notable, isolated cases of lymphedema and elephantiasis persist.[2] Nearly 63% of 1.34 billion people worldwide are at risk of LF, and about 50% of the 120 million infected people live in the Southeast Asia Region. This region bears approximately 57% of the total global burden of an estimated 5.1 million disability-adjusted life years (DALYs) lost due to LF.[3] Lymphatic filariasis is a progressive condition that significantly impacts both the physical and psychological well-being of affected patients, resulting in a considerable reduction in their quality of life.[4] It remains a debilitating parasitic disease.[5]

Apart from the blood and lymph node aspirate, microfilaria can also be isolated in fine-needle aspirates from various samples, as well as from chyluria, chylous ascites, and hydrocele fluid.[5]

2 | CASE REPORT

A 73-year-old female patient was admitted with complaints of bilateral leg swelling persisting for the past 53 years. (Figure 1).

There were three ulcers, each measuring on average 2 × 3 cm, and exhibiting pus discharge. There was an associated fever with chills. She also reported a history of recurring swelling in both legs, along with intermittent episodes of ulceration. On examination, non-pitting edema was observed in both the feet, legs, and thighs, and three ulcers were observed in the right groin. Each ulcer had an irregular margin, sloping edge, and a yellowish overlying slough, with a discharge of pus. The base was indurated and fixed with underlying structure. The skin of both legs had a blackish pigmentation and rough scaling. There was an incision mark with fibrosis present on the right thigh, indicating a similar past history. Bilateral inguinal lymph nodes were palpable. They were discreet, smooth, and firm in consistency. All other systems were within normal limits. Blood parameters were in normal parameters except slightly raised eosinophils (5%) and ESR (45).

Due to the presence of infection and pus discharge in the ulcer, a pus sample was collected for microscopic examination and culture sensitivity. (Figure 2).

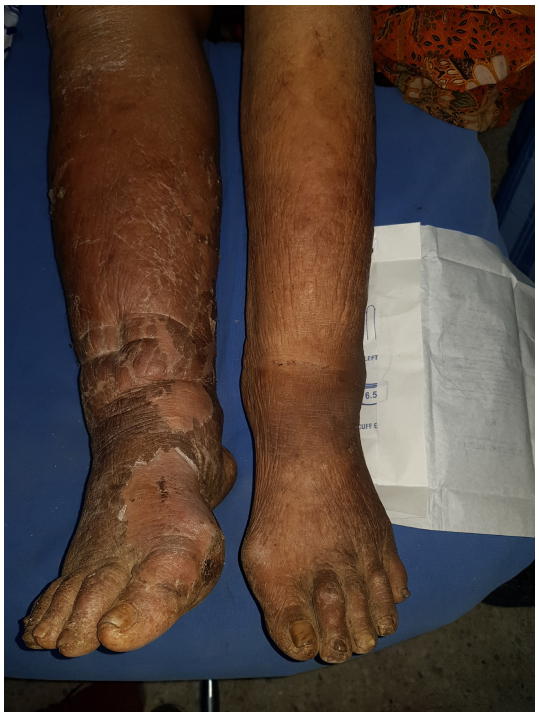

FIGURE 1 Clinical photograph of patient showing elephantiasis leg.

2.1 | Microscopic findings

Gram staining revealed the presence of multiple microfilariae when observed under a binocular microscope. (Figure 3).

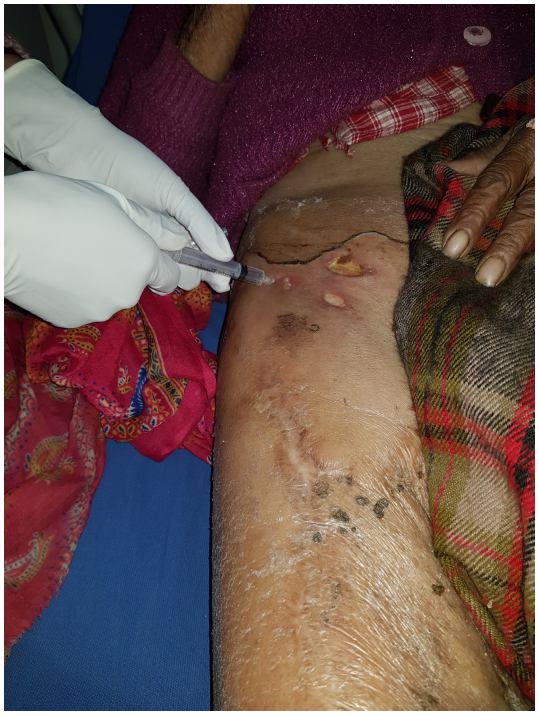

FIGURE 2 Pus collection on sterile syringe without needles.

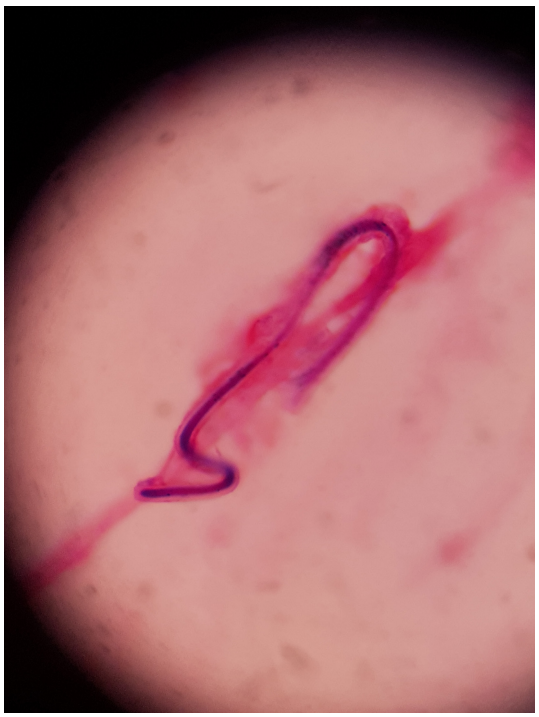

FIGURE 3 Gram staining of pus showing microfilaria.

The patient underwent incision and drainage (I&D) for a right inguinal abscess located under the ulcer. In addition, medical management was provided using steroids (Prednisolone) and Diethylcarbamazine (6 mg/kg).[6] There was dramatic improvement in ulcer healing within 3 weeks with minimal scar. Patient was followed up in 4 months without recurrence and healed ulcers.

3 | DISCUSSION

Filariasis is the most common cause of lymphedema worldwide. Around 120 million people are infected, and approximately 40 million have lymphatic problems. The disease is seen in Africa, Southeast Asia, the Western Pacific, the Americas, and the Middle East.[7] Transmission and morbidity rates are highest in Southeast Asia and Sub-Saharan Africa. It is caused by Wuchereria bancrofti, Brugia Malayi, and Brugia Timori, and is transmitted by female mosquitoes (Culex, Anopheles, and Aedes). Nearly 90% of microfilariae are of W. bancrofti.[5,8] Usually, people residing in endemic zones and being exposed to repeated mosquito bites over several months are required in order to acquire lymphatic filariasis. The majority of infected patients are asymptomatic, while others present with acute symptoms such as fever, headache, malaise, inguinal and axillary lymphadenitis, lymphangitis, cellulitis, abscess formation, and funiculo-epididymo-orchitis. In the chronic form, it can lead to the formation of elephantiasis in the legs, arms, scrotum, vulva, penis, and breasts. Chyluria and lymphovarix are rare conditions. Eosinophilia and microfilaremia are common during the acute phase.

Peripheral blood smears stained with Gram stain, Ziemsa stain, or H&E are crucial for diagnosing microfilaria, as they enable detection in the blood. Differential diagnosis of filariasis should be considered for any lymphedema in an endemic zone, even in the absence of circulating antigens or parasites on laboratory examination.

4 | CONCLUSION

This case report highlights rare finding of the presence of microfilaria in the pus sample of an ulcer over an elephantiasis leg. Lymphatic filariasis, caused by Wuchereria bancrofti, is a common public health issue in endemic areas. The patient presented with chronic leg swelling, recurrent ulceration, and lymphadenopathy. Microscopic examination of the pus sample revealed the presence of microfilariae. The patient was managed with incision and drainage for abscess, along with medical treatment involving steroids and diethylcarbamazine. This case emphasizes the importance of considering filariasis as a differential diagnosis in chronic non-healing ulcers, particularly in endemic regions, even in the absence of circulating antigens or parasites on laboratory examination. Early detection and appropriate management can be crucial in reducing the morbidity associated with lymphatic filariasis.

AUTHOR CONTRIBUTIONS

Manoj Adhikary: Conceptualization; investigation; resources; visualization; writing – review and editing. **Kshitiz Pandey:** Data curation; formal analysis; methodology; writing – original draft. **Sadikchya Lamichhane:** Conceptualization; investigation; methodology; resources; software; supervision. **Pratik Pandey:** Data curation; formal analysis; investigation; project administration; supervision; validation.

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DATA AVAILABILITY STATEMENT

All the data underlying the results are available as part of the article, and no additional source of data are required.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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