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Case Report

Cutaneous leishmaniasis in a child from Dolpa, Nepal: a case report

Seema Sitaula[1], Animesh Giri[2]*, Abhay Kumar[2], Niramika Pathak[1]

[1]Department of Dermatology, Tribhuvan University Teaching Hospital, Institute of Medicine, Maharajgunj Medical Campus, Tribhuvan University, Kathmandu, Nepal
[2]Institute of Medicine, Maharajgunj Medical Campus, Tribhuvan University, Kathmandu, Nepal

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***Correspondence:**
Dr. Animesh Giri,
E-mail: animeshgiri01@gmail.com

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ABSTRACT

Cutaneous leishmaniasis (CL) is a neglected tropical disease (NTD) that is endemic in South Asia. It presents as chronic ulcers. Complications of the disease might be due to the difficulty in diagnosing CL, because of the presence of lesions similar to those of other skin disorders, and the lack of diagnostic resources. A four-year-old boy from Dolpa, Nepal presented to our center with a history of 10 months of painless ulcerative lesion on his right cheek. Initially the lesion was small papule which gradually enlarged over time for which topical steroid antibiotics combination was initiated. No improvement was noted on the lesion and the lesion further ulcerate. After four months, numerous Leishmania donovani bodies was revealed by fine-needle aspiration cytology (FNAC). At our center, a well-defined, round-to-oval erythematous plaque with serous exudate and yellowish-brown crust was noted on examination. The lesion was irregular with sharply demarcated margin and surrounded by erythema. The patient was then referred to Sukraraj Tropical and Infectious Disease Hospital for further anti-leishmanial therapy according to national protocol. Baseline investigations were normal. This case highlights the challenges for diagnosis of skin NTDs like CL in rural settings and essence of keeping a high index of suspicion, early FNAC/biopsy for non-healing ulcers and access to specialized care.

Keywords: Cutaneous leishmaniasis, Neglected tropical disease, FNAC, Nepal, Pediatric dermatology

INTRODUCTION

Several studies have proven the difficulties involved in diagnosing skin NTDs in endemic regions.[1,2] The WHO 2021-2030 road map highlighted ten skin NTDs out of which CL is one.[3] It is transferred through bite by an infected sand fly that infects the exposed body parts like face and limbs, causing chronic skin ulcers.[4,5] Mimicking with other skin condition can often result in delay in diagnosis especially in endemic areas.[1,4] WHO reports emphasize that skin NTDs severely impair quality of life through pain, disfigurement, and stigma.[3,6] Early diagnosis and integrated approach of management are important but in rural health system, diagnostic capacity is often lacking.[2,4,5] This report highlights the presentation and management of pediatric CL from remote Himalayan region, highlighting importance of alertness in atypical chronic skin ulcers.

CASE REPORT

Four years male from remote high Himalayan region of Nepal (Dolpa) presented to our OPD with the complaint of painless, red lesion over the right cheek for ten months. The lesion was ulcerative and would not itch. It was initially small in size which gradually increased over time to reach a recent size. The parents of the child initially sought medical attention in the nearby clinic in their locality and was managed with some topical medication which included a mixture of steroid and antibiotics. With the treatment there was no improvement in the lesion and it gradually started ulcerating. 4 months

later, he presented to our OPD with FNAC report which was suggestive of CL.

On examination, there was a single, well-defined, round to oval erythematous plaque with yellowish to brown crust and serous exudate. The margin was irregular but sharply demarcated with surrounding mild erythema (Figure 1).



Figure 1: Initial skin lesion at the time of presentation to our centre.

He was therefore referred to Sukraraj Tropical and Infectious Disease Hospital for free management of CL where he was given Miltefosine at 2.5 mg/kg/day for 28 consecutive days. At the 3-month follow-up, the lesion had improved significantly, with marked healing observed at 6 months (Figure 2). Table 1 summarizes the baseline investigations with which he presented to our center.



Figure 2: Lesion at 6 months of follow up.

Table 1: Baseline investigations of the patient during presentation.

Asar 05, 2082 (Nepali Calendar)				
Hb (gm%)	**WBC(/µl)**	**DLC (%)**	**Platelet (/µl)**	**K39**
11.7	7480	N48 L40 E7 M5	304000	Negative
Asar 06, 2082 (Nepali calendar)				
FNAC		Smears are moderately cellular revealing numerous macrophages with abundant cytoplasm containing multiple intracytoplasmic organisms showing small round to oval bodies with a dot and dash appearance (nucleus and kinetoplast) consistent with Leishmania Donovani (LD) bodies. A few extracellular LD bodies are also noted. Some inflammatory cell infiltrates are also seen, comprising of lymphocytes and plasma cells. No evidence of fungal organism, acid fast bacilli or malignancy is seen. Impression: Consistent with CL		

DISCUSSION

The diagnosis of skin NTDs is extremely difficult due to overlapping symptoms, variability of disease course, and lack of investigative studies for diagnosis, which delays or misleads the diagnosis and causes long-term suffering and treatment failure.[1,2]

Extended diagnostic timelines as in our case have important downstream consequences. Prolonged uncertainty may lead to repeated healthcare encounters, fragmented care, and escalation of disease severity before definitive management is achieved. This creates functional problems and interruption of work or education, causing a financial burden because of the cost of traveling, lengthy treatment and direct payment, as experienced by our case when the parents talked about the difficulties, they had accessed treatment and the stigma that they were subjected to in their community.

The impact is much worse among rural populations, children, and people dependent on physical labor for earning a livelihood.

The clinical implication of these challenges is need for sustained diagnostic vigilance and an iterative approach to case evaluation, which has been focus of WHO road map for NTD (2021-2030), with a detailed framework focusing on the individual approach to the and the role of the healthcare providers and the community as a whole outlined in strategic framework.[3] Chronic, non-healing, or atypical skin lesions in endemic areas should prompt reconsideration of initial diagnoses when treatment response is inadequate. Repeat biopsy, special stains, and referral for advanced diagnostics, where feasible, are essential for timely diagnosis. Strengthening diagnostic capacity and referral networks at primary and secondary healthcare levels is crucial to improve recognition and management of skin-related NTDs in Nepal.

Digital and decision-support tools, such as the World Health Organization's skin NTDs app, successfully implemented in other endemic settings may offer a practical approach for supporting frontline healthcare workers in Nepal to recognize and triage chronic and atypical skin lesions.[7] Concurrently, improving access to basic dermatopathology services at provincial hospitals where consultant dermatologists are available, along with focused training of frontline healthcare providers, could facilitate earlier diagnosis and appropriate referral.[6] Integrated frameworks for skin NTDs emphasize efficiency and resource optimization, their effectiveness ultimately depends on local clinician awareness, diagnostic vigilance, and health-system responsiveness within the Nepali context.[1,2,4,5]

CONCLUSION

Due to mimicking of clinical features with other skin conditions in addition to resource-limited settings and limited access to confirmatory investigations, it makes skin-related NTDs diagnostically challenging. This case report highlights the importance of maintaining a high index of suspicion, utilization of repeat diagnostic evaluation whenever needed, and strengthening of referral and diagnostic system to decrease delay in diagnosis and improve patient outcomes.

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