

Firm Nodular Plaque Over the Foot

A 27-year-old married female presented with three skin colored, grouped, raised lesions on the dorsum of the right foot for the last one year [Figure 1]. The lesions were slowly progressive. The lesion site had no history of trauma, pus discharge, itching, or sensory loss. There was no joint pain. Examination revealed a firm to hard, mildly tender nodular plaque that was not freely mobile. There were no other skin lesions elsewhere, no nerve thickening or sensory or motor weakness. X-ray of the area showed subcutaneous mass. The histopathology of the skin lesion showed that the epidermis was unremarkable with the presence of the grenz zone [Figure 2a]. The upper dermis showed periadnexal chronic inflammatory infiltrate with foamy cells. In the deeper dermis, there was dense infiltration of histiocytes displaying spindled morphology [Figure 2b].

Question

What is the diagnosis?

Answer

Histoid leprosy.

Discussion

Leprosy is a neglected tropical disease. A total of 129,192 leprosy cases were registered in 127 countries (out of 212) by the end of 2020, which represents a prevalence rate of 16.6 per million populations. Overall, 127,396 new cases occurred globally, representing a detection rate of 16.4 per million people, and 67.3% of these were multibacillary leprosy cases.^[1] Among all leprosy cases, Histoid leprosy (HL) accounts for only 1.8% to 2.9%, and males are more likely to contract it than females, with a male-to-female ratio ranging from 1.75 to 5.7:1.^[2] HL is an uncommon variant of lepromatous leprosy

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Figure 1: Three skin-colored raised grouped lesions on the lateral aspect of the dorsum of the right foot

that usually follows treatment failure. Sometimes it occurs *de novo* without any history of inadequate or irregular treatment. This disease has an unusual clinical picture, which can put a hold on a correct diagnosis, resulting in a delay in starting treatment and perpetuating the disease as an endemic.^[3] Besides the usual clinical appearance as soft to firm skin-colored papules/nodules, HL has reported in

How to cite this article: Gupta SK. Firm nodular plaque over the foot. Indian Dermatol Online J 2023;14:134-5.

Received: 25-Feb-2022. **Revised:** 19-May-2022.

Accepted: 28-May-2022. **Published:** 21-Sep-2022.

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Access this article online

Website: www.idoj.in

DOI: 10.4103/idoj.idoj_131_22

Quick Response Code:



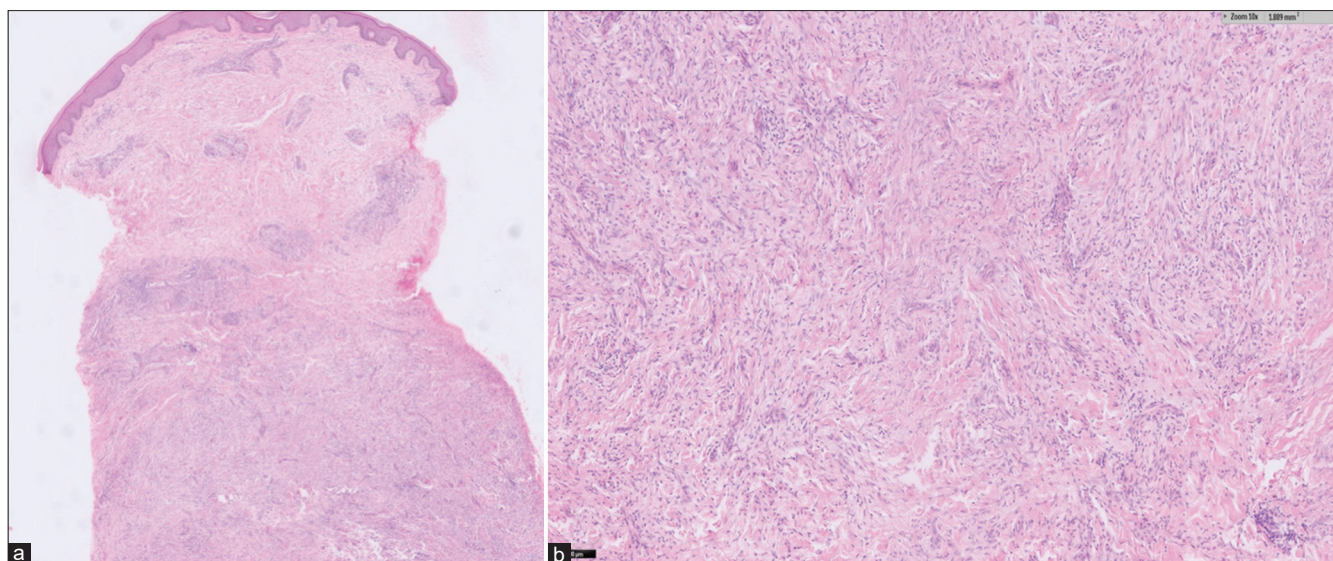


Figure 2: (a) The histopathology (H and E stain 4×) showed that the epidermis was unremarkable with the presence of the grenz zone. (b): The histopathology (H and E stain 40×) showing dense infiltration of histiocytes displaying spindled morphology

different forms resembling the keloid, molluscum contagiosum, neurofibroma, dermatofibroma, cutaneous leishmaniasis, deep mycosis, xanthoma, cutaneous metastasis, or reticulohistiocytosis.^[3,4] A whorl pattern of spindled histiocytes found on histopathology can mimic dermatofibroma/neurofibroma.^[2,4] Fite-Faraco staining of tissue samples is an important and sensitive method for displaying *Mycobacterium leprae* in the form of pinkish slender rod like structures arranged in clumps while the background stain is blue [Figure 3].^[2] In the present case, BI was 6+. Since HL represents a huge reservoir of live bacilli and is an important source for transmission of leprosy, they need early detection and complete treatment.^[3] A variety of regimens, including rifampicin, dapsone, clofazimine, minocycline, and ofloxacin, had been tried, however, the standard WHO MB-MDT is considered the most effective, unless drug resistance study from skin lesional tissue shows any resistant strain to any MDT drug/s^[5]. In present case, biopsy material was not sent for drug-resistant study as the patient was treatment naïve.

In light of the unorthodox presentation of this case, dermatologists should consider HL as a differential diagnosis of solitary cutaneous conditions.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

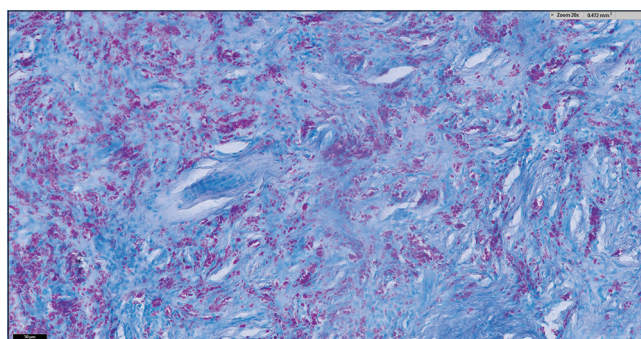


Figure 3: Fite-Faraco stain showed numerous pinkish slender rods arranged in clumps (100x)

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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