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CASE REPORT

Single Lesion Borderline Lepromatous Leprosy[1]

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ABSTRACT

A patient is reported who presented with a single lesion on the face which, on histopathological examination, was found to be borderline lepromatous leprosy. The importance of doing skin smears as a routine in all patients to differentiate Multibacillary from Paucibacillary disease is emphasized.

RÉSUMÉ

Nous rapportons ici un patient avec une seule lésion sur la face qui, à l'examen histopathologique, fut diagnostiqué comme souffrant de lèpre borderline. Ce cas souligne l'importance de réaliser des frottis de suc dermique en routine chez tous les patients pour différencier la maladie multibacillaire de la maladie paucibacillaire.

RESUMEN

Se informa el caso de un paciente que se presenta con una sola lesión en la cara; el examen histopatológico de la lesión fue indicativo de un caso de lepra lepromatosa subpolar. Se enfatiza la importancia de hacer, como rutina, el estudio de extensiones de linfa cutánea en todos los pacientes con el fin de diferenciar la enfermedad multibacilar de la paucibacilar.

Leprosy exhibits a wide spectrum of disease presentation varying from the tuberculoid to the lepromatous type of leprosy spectrum depending upon the immune status of the individual ([1]). Lepromatous (LL) leprosy and borderline lepromatous (BL) types of leprosy are generalized forms of the disease with widespread skin infiltration, numerous macules, papules, plaques or nodules distributed symmetrically all over the body ([1]). Histoid leprosy and lucio leprosy are variants of lepromatous leprosy. Rarely, Lepromatous leprosy patients presenting with a solitary or only a few lesions along with a high bacterial count are reported ([1, 2, 6, 7, 9]). In this paper we report a patient of borderline lepromatous leprosy presenting with a single lesion on the face and discuss its significance.

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CASE HISTORY

A 45-year-old housewife belonging to a moderately endemic leprosy area in Tamil Nadu, India presented with a single erythematous plaque over the bridge of the nose present for 6 months. On examination, the solitary infiltrated erythematosus plaque located over the bridge of the nose extended to the forehead, measuring 4 cm × 3 cm, with well to ill-defined borders (Fig. 1). The sensation over the lesion was preserved. No other lesions were present over the rest of the body. There was no peripheral nerve thickening. No history of contact could be elicited. Clinically, the possibilities of borderline tuberculoid leprosy with mild type 1 reaction, lupus vulgaris, and sarcoidosis were considered. Skin smear from the lesion revealed a Bacillary Index (BI) of 3+ while it was negative from the routine sites. Nasal scrapings were negative for Acid Fast Bacillus (AFB). Lepromin test read at 21 days was also negative. All other routine laboratory investigations were within normal limit. The biopsy from the lesion revealed diffuse atrophy of the epidermis. There was a subepidermal free zone. The dermis showed a dense granulomatous infil-

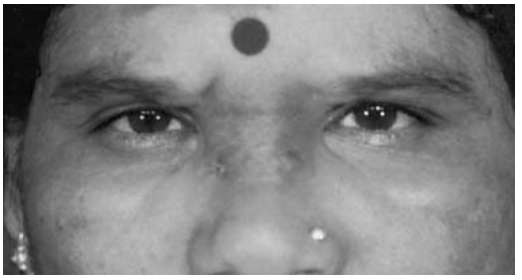

FIG. 1. Photograph to illustrate the lesion on the face. Note: Localized, partly raised and erythematous lesion.

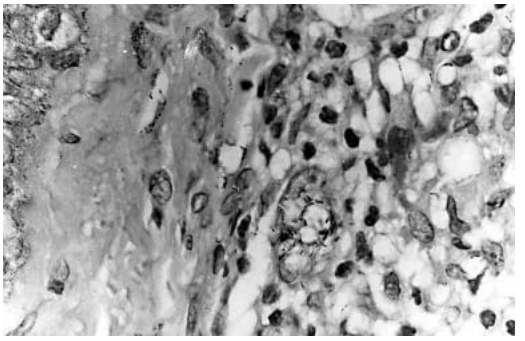

FIG. 2. Photomicrograph showing part of a hair follicle, adjacent to which is a granuloma consisting of macrophages and scattered lymphocytes. Some of the macrophages show foamy cytoplasm. The macrophages contain several acid-fast bacilli (Modified Fite's stain ×1000).

trate around the blood vessels and the pilosebaceous apparatus. The inflammatory infiltrate was composed of sheets of macrophages and lymphocytes (Fig. 2). The dermal nerves showed intraneural lymphocytic infiltrate. The upper dermal blood vessels were dilated and there was edema. The Granuloma Fraction was 80%. Stain for AFB showed clumps of bacilli within the granulomas. Some of them were solidly staining. Bacillary index of the granuloma (BIG) was 4+.

Based on the smear results and histopathological report the patient was classified as borderline lepromatous (BL) and was started on World Health Organization (WHO) multidrug therapy (MDT) regimen for multibacillary (MB) leprosy.

DISCUSSION

Clinically, this case appeared as borderline tuberculoid (BT) leprosy with mild type 1 reaction. But the skin smear examination from the lesion showed a moderately high bacterial index and the histopathological examination confirmed that this was a lesion of borderline lepromatous leprosy. This clinical and histopathlogical discrepancy has been reported earlier ([2, 8]). This case emphasizes the importance of skin smears and the histopathological identification and classification of all patients with unusual lesions. Without such information, this patient would have been considered tuberculoid or borderline tuberculoid leprosy and would have received treatment designed for paucibacillary (PB) patients, which may not have been adequate. It is not always routinely possible to do a histopathological examination but skin smear from selective sites, which is a relatively minor procedure, should always be done in patients with one or few skin patches to help in differentiating MB from PB cases. This is all the more important in a period when the disease is under control, and patients report with early lesions and advanced disease has become a rarity. To our knowledge this is the first case of localized borderline lepromatous (BL) leprosy to present on the face, whereas reports of localized lepromatous leprosy involving the extremities have been published earlier ([6, 7]).

The localization of the lesion to the glabellar portion of the forehead also merits attention. *Mycobacterium leprae* is known to enter the body of a susceptible host through abrasions following minor trauma ([6]). There have been reports of the development of leprosy at the sites of accidental inoculation, thorn pricks ([5]) and tattooing ([3]). The patient in our study had been using *sindoor* (a pigment used for beautification) over the central part of forehead over many years, and it is possible that this could be the initiating event. Though no history of allergy to the pigment used could be elicited, the hypopigmenation present at the site of the application may be an outcome of ongoing subacute inflammation. The possibility that leprosy bacilli might have contaminated the pigment used by the patient should also be seriously considered.

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