

CASE REPORT

**Single patch, mononeuritic multibacillary leprosy:
A case report**

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Introduction

Demonstration of lepra bacilli by means of slit skin smear (SSS) and skin histopathology is well recognised to substantiate the clinical classification of leprosy patients. Nerve biopsy, although not widely practiced, has been shown to be more specific in the diagnosis of leprosy. Discordance between nerve and skin histology is known, with involved nerves generally unfolding a higher bacterial load and a lower spectrum of the disease.¹ Herein, we report a patient of borderline tuberculoid leprosy who after completing 6 months of paucibacillary regimen (PBR) of multi drug therapy (MDT), was found to house lepra bacilli only on nerve aspirate, thereby reclassifying the treatment regimen for his disease.

Case Report

A man in his 20s and a resident of a leprosy endemic area presented to us with a 2-year history of a non-tender longitudinal nodular neck swelling on the right-side of neck and a well to ill-defined hypopigmented hypoaesthetic patch of size 7 x 10 cm on his right cheek (Figure 1).

He was diagnosed as borderline tuberculoid leprosy and had received 6-months of WHO PBR MDT from a local hospital one and a half years previously. The patient came to us with increase in size of neck swelling and patch, after release from therapy. The rest of the clinical

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Figure 1. Longitudinal swelling on the right-side of neck (left side arrow) representing thickened greater auricular nerve, which seems to apparently feed a well to ill-defined hypopigmented patch (right side arrow) on the cheek and neck.

examination was unremarkable. On clinical suspicion of relapse, we investigated the patient and found that SSS was negative. Histopathology from the skin lesion demonstrated multiple epithelioid cell granulomas in the dermis, with no acid fast bacillus (AFB), which was consistent with the diagnosis of borderline tuberculoid leprosy. Ultrasonography from the nodular neck swelling showed multiple hypoechoic non-vascular linear nodules in right cervical subcutaneous plane, indicating its neural origin. FNAC from the thickened greater auricular nerve revealed multiple epithelioid cell granulomas, foamy macrophages admixed with mature lymphocytes and AFB (Figures 2a,b,c,d), indicating the multibacillary status of the patient.

He was prescribed a 12-month course of multibacillary regimen (MBR) of MDT following which the nerve swelling reduced in size.

Comment

The present case of borderline tuberculoid leprosy presenting as a single patch and a thickened nerve with paucibacillary status even on SSS and histopathology from skin lesion, proved to be an interesting case with demonstration of AFB on FNAC of nerve. This cytological discrepancy between the patch and the nerve especially in a mononeuritic patient is rare to note, with its crucial therapeutic implications. Moreover, it challenges the current WHO clinical classification based on the number of skin lesions and involved nerves and also SSS, which seems to be a contributing factor in under treatment and relapse in this case.

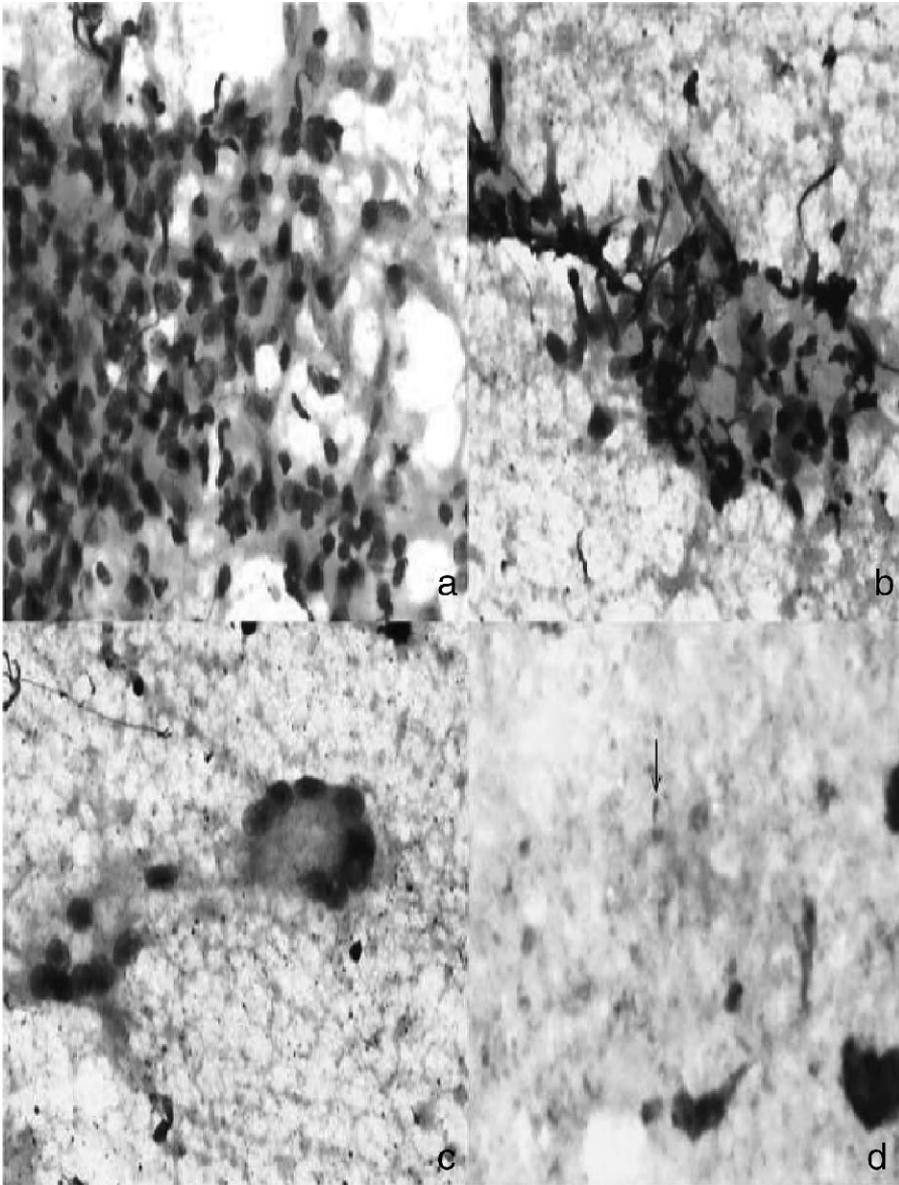


Figure 2. Fine needle aspiration cytology smears of greater auricular nerve: (a) and (b) showing multiple epithelioid cell granulomas admixed with mature lymphocytes (Hematoxylin and eosin stain, 400x) (c) Multinucleated giant cells (Hematoxylin and eosin stain, 400x) (d) Lepra bacilli (arrow) stained positive (Modified Ziehl-Neelsen, Oil immersion).

Histological discrepancies between skin and nerve have been reported earlier by Kumar *et al.*² who had observed a multibacillary nerve and paucibacillary skin picture in three out of 27 patients studied. In such a scenario, nerve histology is warranted to prevent the under treatment of multibacillary cases. FNAC of nerves being a minimally invasive modality with

a wider acceptability potential, can prove to be an excellent diagnostic counterpart of SSS, in order to differentiate between multibacillary and paucibacillary leprosy, as was seen in our case.

Nerve cytology has been shown to be a rapid, reliable and definitive modality to substantiate the clinical expertise in diagnosing pure neural leprosy, when combined with polymerase chain reaction (PCR).³ FNAC of peripheral nerves can also serve as a simple tool to even differentiate between relapse and late reversal reaction in treated patients presenting with new onset or worsening nerve function impairment.

This case also adds on to the newly recognised localised forms of multibacillary disease, reported as either single lesion borderline lepromatous or lepromatous leprosy.^{4,5,6} Multibacillary status of a solitary nerve not only further extends the wide spectrum of Hansen's disease but also suggests that the host response to *Mycobacterium leprae* varies in a yet undetermined way to be able to contain even a high bacillary load. In countries where leprosy still constitutes a significant public health problem, such hidden cases of leprosy must be investigated thoroughly before instituting the correct therapeutic regimen. A careful follow up of PBR treated patients might further enlighten the role of this simple procedure in preventing relapses known to occur in this subset of patients.

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