

## **Dry skin lesions with marked hair loss in a case of BL leprosy. A case report**

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*Summary* Skin lesions of leprosy that are anaesthetic, well defined, limited in number and dry with significant hair loss generally fit into the paucibacillary (PB) spectrum. The bacteriological index (BI) is expected to be negative or low. We have reported a case who presented with such findings but whose BI readings were high. Together with the biopsy findings the patient was classified as having borderline (BL) leprosy. The role of the skin smear examination and the misleading nature of some clinical features are highlighted. The authors feel that skin smear examinations should be performed on all leprosy patients at the time of diagnosis.

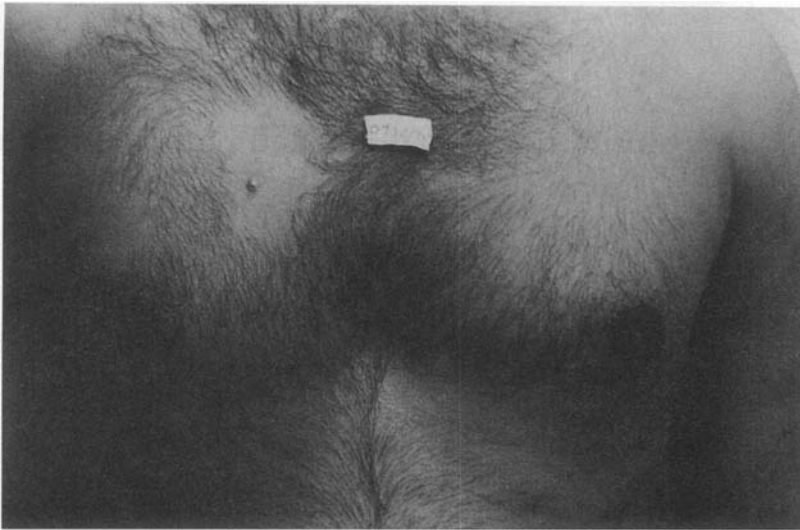
### **Introduction**

Hair loss over skin lesions is a recognized feature in leprosy. Such a finding over a patch, accompanied with dryness and fine scaling is generally more common in tuberculoid/borderline-tuberculoid (TT/BT) leprosy and is rare and late in the borderline/lepomatous (BL/LL) types.<sup>1,2</sup> We report a case who presented with the majority of their patches showing marked hair loss and dryness in BL leprosy.

### **Case Report**

A 23-year-old male presented to us with asymmetrically distributed patches, less than 10 in number, medium to large in size over the lower limbs, chest and arms. All patches were flat, hypopigmented, dry with fine scales, well defined and showed partial anaesthesia. A few patches showed satellite lesions. Hair loss over the patches was marked, giving the large patches over hairy areas the very distinctive appearance normally noticed in the tuberculoid (TT) end of the spectrum.

Some peripheral anaesthesia, though with some asymmetry, was demonstrable in all four limbs. Nerve trunks were thickened. There was a slight suspicion of fine infiltration of the face. Earlobes were not thick. There was no obvious infiltration



**Figure 1.** Dry lesion with hair loss over chest with sensory loss.

detectable clinically elsewhere. The clinical classification suspected was that of BT. However, in view of the suspicion of infiltration in the face, a slit-skin smear examination was done before deciding on therapy. Smears were taken from both earlobes, both thighs, both upper arms and from a few patches. The bacteriological index (BI) was found to be 5.25+ and morphological index (MI) was negative which made us classify him as BL leprosy. A 4-mm punch biopsy taken from a dry partially anaesthetic patch with total hair loss was reported as BL leprosy. Sections showed small macrophage granulomata within the dermis. There was both superficial and deep inflammation with nerve involvement. In some granulomas, collections of lymphocytes were prominent and there were occasional giant cells. Early epithelioid cell formation was also present. However most of the cells were vacuolated macrophages which contained numerous Wade-Fite positive acid-fast bacilli. All of the organisms present appeared to be beaded and occasional small globi were present. The patient was put on WHO recommended MB MDT. He developed mild ENL and is being treated appropriately.

## Discussion

This case is being presented owing to the interesting nature of presentation of this highly bacilliferous patient. The BI by slit-skin smear from all sites examined was not less than 5+ despite absence of obvious clinical infiltration. BI values at the biopsy site which was a dry hairless lesion with partial anaesthesia was noted to be 4+. The total number of patches in this patient were less than 10.

At least two issues emerge out of this. The first relates to the role of skin smear examination. It has been stated that in most cases it is possible to diagnose leprosy and distinguish between multi- and pauci-bacillary cases on clinical grounds.<sup>3</sup> In addition



**Figure 2.** Lesion with hair loss over left thigh and partial sensory loss.

the validity of skin smear results are also being questioned.<sup>4,5</sup> In our case there is the possibility of the patient having recently downgraded from BT to BL. However, this should not affect the patient's disease being classified as MB and treated thus. The peripheral anaesthesia and the early fine infiltration of the face were difficult to detect and are likely to be missed in rapid field surveys. Therefore, in our opinion, skin smears are still essential before starting MDT in all cases.

The second relates to the lesion count. Counts of lesions or body areas involved are now gaining ground as alternative methods in classifying patients as PB or MB.<sup>6,7</sup> In the National Leprosy Eradication Programme in India, counts of BT cases with 10 or more lesions receive MB treatment, irrespective of their skin smear status.<sup>7</sup> In the case presented here if the skin smear examination had been omitted the patient would in all likelihood have received a PB regimen. Therefore, in our opinion classifications of leprosy based purely on the number of patches and its features, e.g. dryness and hair loss, while the skin smear examination is either missed or deferred at the time of diagnosis, even if for logistic reasons, may result in multibacillary patients being classified as paucibacillary and treated thus. The present case highlights the need for a skin smear examination at the time of diagnosis. There is also a case for thorough clinical examination at the time of diagnosis. The finding of lesions with total hair loss in almost all skin lesions in a case of BL leprosy is noteworthy.

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