

CASE REPORT

Lepromatous lymphadenopathy and concomitant tuberculous axillary lymphadenitis with sinus. A case report

ABRAHAM SELVASEKAR, GIGI J. EBENEZER* AND
M. PARTHEEBARAJAN

*Schieffelin Leprosy Research and Training Centre, Karigiri,
Vellore District, Tamil Nadu, India 632 106*

Accepted for publication 15 June 1999

Summary A 25-year-old male patient with florid lepromatous leprosy presented with right axillary lymphadenopathy and a discharging sinus. He also had scabies with chronic right otitis media. Histopathological examination of the lymph node revealed lepromatous lymphadenitis coexisting with tuberculosis. This unusual combination of two different clinical entities is recorded in this case report.

Introduction

Tuberculosis and leprosy are two different clinical entities but share similarities in morphology of the causative organism. However, coexistence of both diseases in the same patient has been recorded only occasionally. Sharma¹ studied 40 lymph node biopsies of leprosy patients of whom one case showed characteristic features of tuberculous infection. Desikan and Job² found tuberculous lymphadenitis in six of 22 autopsied lepromatous cases. Although generalized lymphadenopathy in lepromatous leprosy is a common feature, concomitant tuberculous infection of the same gland is rare. One such case is reported here.

Case report

A 25-year-old male reported with thickened ear lobes and an enlarged right axillary lymph node which had broken down and had been discharging necrotic material for 1½ months. He had also a history of skin rash for 10 days, epistaxes for 1 month and pus discharge from the right ear for 3 months. On examination, the patient had a papular rash all over the body more on the finger webs, the axillae and groins. Ear lobes were thickened and succulent with nodules in the margins. There were partial loss of eyebrows. He had multiple thickened cutaneous nerves with grade one deformity. Cardiovascular, respiratory and gastrointestinal

Correspondence to: Dr Gigi Ebenezer, Head, Department of Histopathology, Schieffelin Leprosy Research and Training Centre, Karigiri, Vellore District, Tamil Nadu, India 632 106

systems were clinical normal. Inguinal lymphnodes were enlarged but not tender. The right axillary lymph nodes were enlarged on both sides and matted together (Figure 1a). A discharging sinus arising from the enlarged lymph nodes was seen (Figure 1b). On palpation, the swelling was tender. A clinical diagnosis of lepromatous leprosy with tuberculous axillary

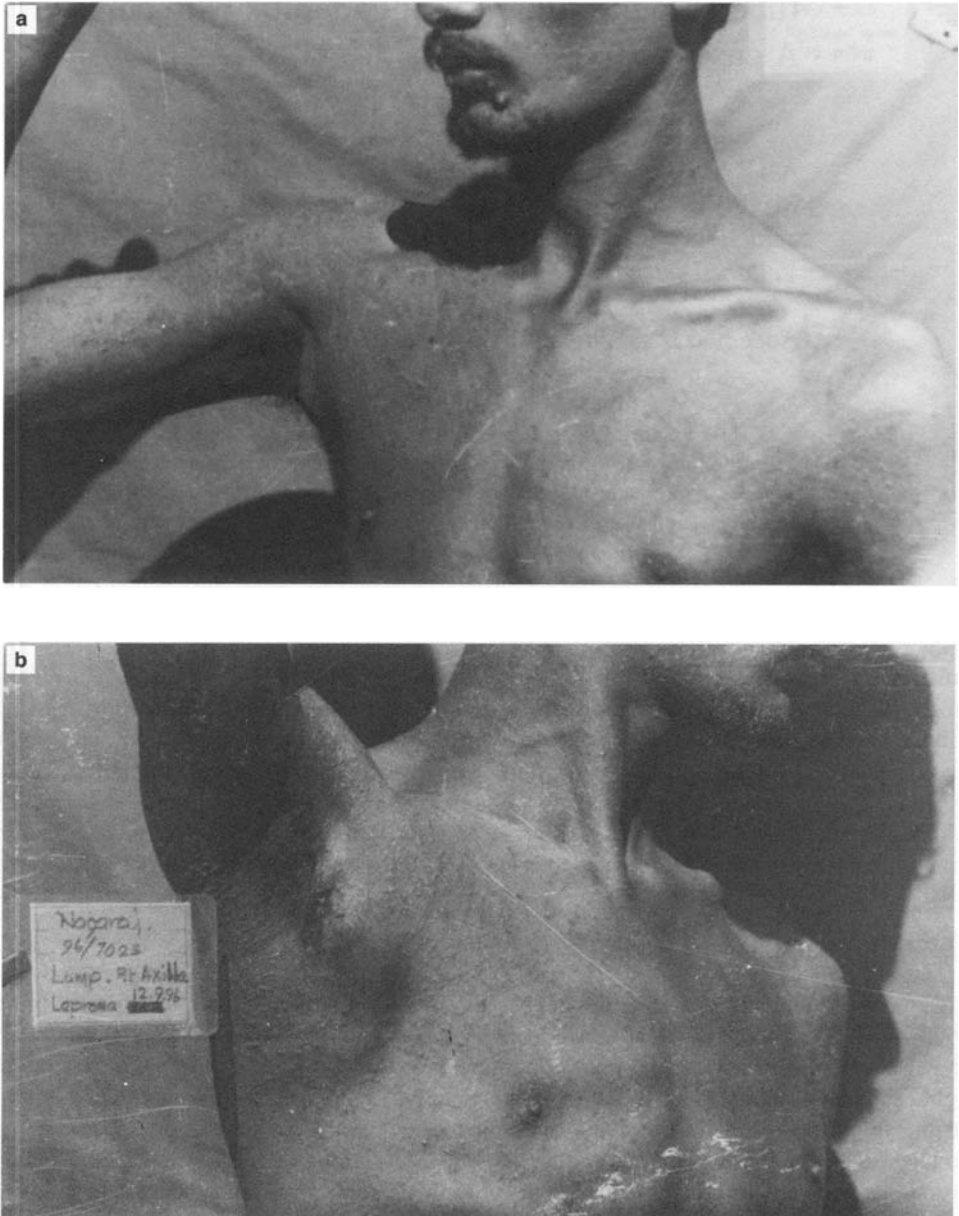


Figure 1. **a** Clinical photograph showing right axillary lymphadenopathy and thickened ear lob. **b** Clinical photograph showing right axillary lymphadenitis with discharging sinus.

lymphadenitis, scabies and chronic otitis media of the right ear was made and the patient was started on anti-leprosy treatment consisting of rifampicin, clofazimine and dapsone.

Routine blood, urine and stool examinations were normal. Malarial parasite and microfilaria were absent. Chest X-ray was normal. Mantoux test was recorded at 17 mm. Lepromin was negative. ELISA test for HIV infection was negative. Skin smears showed a bacteriological index (BI) of 4-20. Routine culture of the pus obtained from the right ear showed heavy growth of *Morganella morganii* and scanty growth of diphtheroids. The pus from the axillary sinus grew *Staphylococcus aureus*. Ziehl-Neelsen stain failed to show acid fast bacilli (AFB) from pus from the ear and from the axilla. One week of treatment with antibiotics reduced the size of the gland and the pus discharge from the ear. Scabies was treated with benzyl benzoate topical application. Biopsy of the right ear lobe was performed and was fixed in 10% neutral formalin for histopathological examination and for drug sensitivity studies using the mouse foot pad technique. The draining lymph node with the discharging sinus was surgically excised. Cut surface of the nodes showed extensive areas of caseous necrosis. Two months later, another group of matted glands from the same site was excised. A part of the specimen obtained was fixed in 10% neutral formalin and was examined histopathologically. The other portion was processed for mouse foot pad inoculation for the growth of *M. leprae* and for culture in Lowenstein-Jensen (LJ) media for *M. tuberculosis*.

Histopathological examination

SKIN FROM EAR LOBE

The epidermis was atrophic. In the dermis there were focal areas of foamy macrophages. Dermal

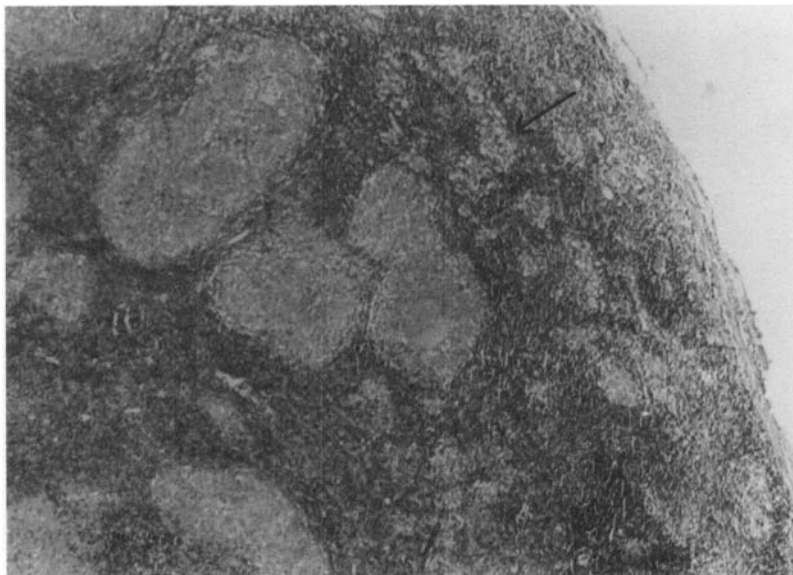


Figure 2. Photo-micrograph showing lymph node structure with scattered collections of epithelioid cells and foci of foamy macrophages (H&E $\times 40$).

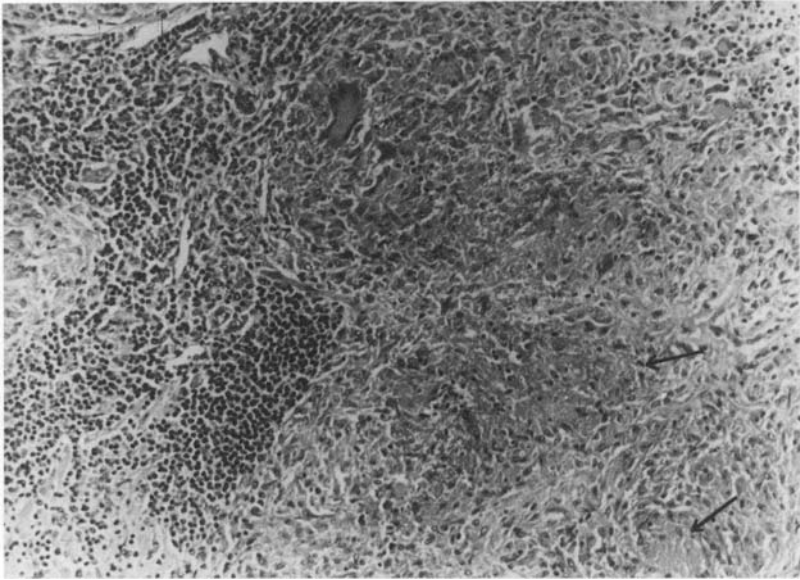


Figure 3. Photo-micrograph showing tuberculoid granuloma composed of epithelioid cells, a Langerhans giant cell and foci of caseous necrosis (H&E $\times 200$).

nerves were surrounded by macrophages. Acid-fast stain showed numerous bacilli inside macrophages and nerves. They were predominantly granular and beaded. A histopathological diagnosis of lepromatous leprosy was made.

Mouse foot pad studies from the skin specimen showed organisms resistant to rifampicin

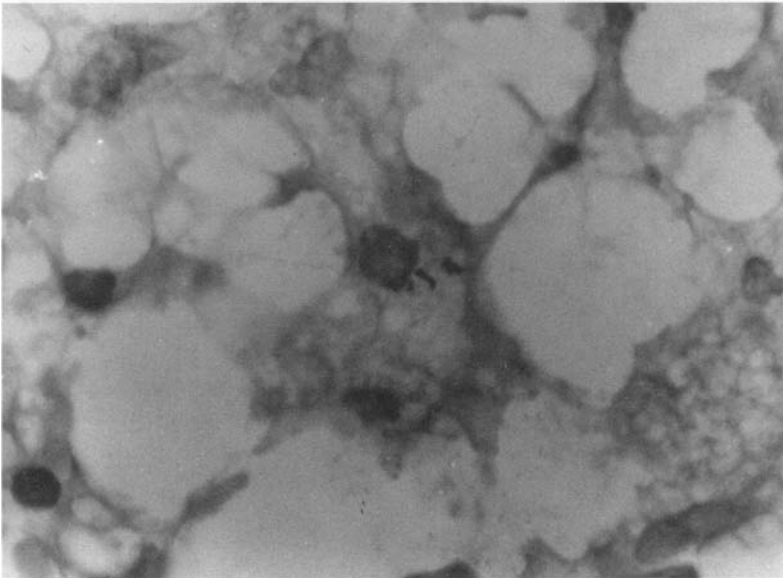


Figure 4. Photo-micrograph showing foam cells containing intracellular acid fast organisms (modified Fite $\times 1000$).

at 0.03% concentration in the diet but sensitive at 0.01% concentration. The Lowenstein-Jensen media did not grow *M. tuberculosis*.

LYMPH NODE

The normal architecture of the lymph node was replaced by many focal and confluent granulomas composed of epithelioid cells surrounded by lymphocytes and Langerhans giant cells. There were extensive areas of caseous necrosis (Figure 3). In addition, there were clumps of foamy macrophages and macrophages with pink granular cytoplasm. These sheets of foamy macrophages were in close association with epithelioid cell granulomas (Figure 2). The capsule of the lymph node was thickened and fibrosed. Acid-fast stain showed clumps of AFB inside foamy macrophages (Figure 4). With the above histological features, a diagnosis of tuberculosis in a lepromatous lymphnode was made.

Discussion

This patient had matted lymph nodes in the right axilla which on histological examination showed epithelioid cell granulomas with caseous necrosis. There was also a sinus draining pus and necrotic material in the axilla. The histological diagnosis of tuberculosis lymphadenitis was based on these findings. In addition, in the same lymph node there were sheets of foamy macrophages packed with AFB. With the history and clinical picture of lepromatous leprosy, and the lymph node showing sheets of foamy macrophages packed with AFB, a diagnosis of lepromatous lymphadenitis was made. It is possible that the *M. tuberculosis* was not grown in LJ media, as the patient had already had rifampicin therapy for a period of 3 months as anti-leprosy treatment, when the lymph node biopsy was done. The patient also had chronic otitis media and scabies.

Lepromatous leprosy in association with pulmonary tuberculosis has been reported earlier.^{2,4} In an autopsy study it had been shown that tuberculosis is the common cause of death in leprosy patients.³ In addition, tuberculosis of the hip joint,⁵ skin,⁶ carpal bones of the hand⁷ and larynx⁸ have been over-recorded in the literature. In clinical practice, unless careful history, clinical examination and necessary investigations are carried out in every patient, associated diseases can be easily missed. Leprosy workers should adopt an holistic multi-disciplinary approach in treating tropical disease⁹ and concomitant diseases like tuberculosis should always be borne in mind and alternative treatment strategies, where appropriate, should be co-opted.

Acknowledgement

The authors are thankful to Professor Charles K. Job, Consultant Pathologist, St Thomas hospital and Leprosy Centre, Chettupattu, for his guidance in writing this paper. We also thank Mr K. Vilvanathan and Mr R. Soundararajan, Mr Z. Wilson for technical assistance, Mrs Reeny S. Charles for secretarial help and Dr P. S. S. Sundar Rao, Director of the institution, for his encouragement.

References

- ¹ Sharma KD, Shrivastav JB. Lymphnodes in leprosy. *Int J Lepr*, 1958; **26**: 41–50.
- ² Desikan KV, Job CK. A review of post-mortem findings in 37 cases of leprosy. *Int J Lepr*, 1968; **36**: 32–44.
- ³ Gatner EMS, Glatthaar E, Imkamp FMJH, Kok SH. Association of tuberculosis and leprosy in South Africa. *Lepr Rev*, 1980; **51**: 5–10.
- ⁴ Mitsuda K, Ogawa M. Study of one hundred and fifty autopsies on cases of leprosy. *Int J Lepr*, 1937; **5**: 53.
- ⁵ Kulkarni V, Gharpuray MB, Kulkarni DS. Multiple cold abscesses in a borderline lepromatous patient on multi-drug therapy. *Ind J Lepr*, 1989; **61**: 442–444.
- ⁶ Patki AH, Jadhav VH, Mehta JM. Leprosy and multicentric lupus vulgaris. *Ind J Lepr*, 1990; **62**: 368–370.
- ⁷ Dixit VB, Pahwa US, Sen J, Jain VK, Sen R. Cold abscesses and scrofuloderma in a patient of lepromatous leprosy. *Ind J Lepr* 1991; **63**: 101–102.
- ⁸ Flanagan PM, McIlwain JC. Tuberculosis of the larynx in a lepromatous patients. *J Laryngol–Otol*, 1993; **107**: 845–847.
- ⁹ Lockwood DNJ, Saunderson PR. Harnessing the strengths of the leprosy programme to control tuberculosis. *BMJ*, 1995; **311**: 862–863.