CASE REPORT

Lepromatous lymphadenitis masquerading as lymphoma

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Summary A 70-year-old male presented with multiple lymphadenopathy and a strong clinical suspicion of non-Hodgkin’s lymphoma. Cervical and axillary nodes were excised and were sent for histopathological evaluation, which revealed aggregates of lepra cells loaded with lepra bacilli. Clinicians practising in leprosy endemic areas should keep lepromatous lymphadenitis in mind while investigating patients with lymphadenopathy.

Introduction

Leprosy, first described in ancient Indian texts from the 6th century B.C., is a non-fatal, chronic infectious disease caused by Mycobacterium leprae, whose clinical manifestations are largely confined to the skin, peripheral nervous system, upper respiratory tract, eyes and testes.1 Leprosy most commonly presents with both characteristic skin lesions and skin histopathology. The disease should be suspected when a patient from an endemic area has suggestive skin lesions or peripheral neuropathy.1 However, this disease can even mimic lymphoma clinically, as can be seen in the following case report.

Materials and methods

Supraclavicular and axillary lymph nodes were excised surgically and were transported in 10% formalin. Formalin-fixed and paraffin-embedded 5μm thick sections were made. These sections were stained with haematoxylin and eosin (H&E) and modified Ziehl–Neelsen techniques, and were examined by a light microscope.

Case report

A 70-year-old illiterate male presented with chest pain, fever, cough, right axillary swelling and bilateral leg oedema. On examination, cervical, supraclavicular, axillary and inguinal
lymph nodes were enlarged. The average size of these lymph nodes was approximately 3 × 3 cm. Considering the age of the patient and the presence of generalized lymphadenopathy, the clinicians strongly suspected a non-Hodgkin’s lymphoma (NHL). The supraclavicular lymph node was excised and sent for histopathological evaluation.

We received a 3 × 3 cm lymph node, the cut surface of which was homogenous gray-white. Microscopic evaluation of sections stained by H&E revealed aggregates of foamy histiocytes (Figure 1) surrounded by plasma cell infiltrate. These foamy histiocytes resembled the lepra cells seen in skin biopsies of patients with lepromatous leprosy. Therefore, a modified Ziehl–Neelsen stain was performed. The foamy histiocytes were packed with acid-fast lepra bacilli (Figure 2). No evidence of a neoplastic process in the lymph node was found.

After the histopathology report of lepromatous leprosy, the patient was referred to the dermatology department for further evaluation. Multiple skin lesions were found all over the body, which were dry and ichthyotic with loss of hair. There was sensory loss to touch and painful stimuli over both the lower extremities. Left common peroneal and posterior tibial nerves were thickened. A skin biopsy was done which revealed lepromatous leprosy with lepra bacilli in the lepra cells. Slit skin smears were not performed. The patient did not have any documentary evidence of his past medical history. On probing, he revealed that he had been prescribed drugs for leprosy a few years ago, and he had been asked for a follow-up visit after 1 month. However, he neither took the drugs regularly nor went for the follow-up. The patient did not give any history of high-risk behaviour or exposure, and serological test for HIV was not performed.

The surgeons, still suspecting a coexisting NHL, excised the axillary lymph node and sent it for histopathology. Even this lymph node revealed the same morphology as the supraclavicular lymph node.

Figure 1. Aggregates of lepra cells (arrows) in lymph node. Stain: haematoxylin & eosin. Magnification × 400.
Lymph node involvement in lepromatous leprosy has a very characteristic microscopic appearance. The main change is the progressive accumulation of large, pale, rounded histiocytes (‘lepra’ or ‘Virchow’ cells), without granuloma formation and with minimal or no necrosis. Wade–Fite and File–Farasco stains (modified Ziehl–Neelsen reactions) demonstrate packing of the cytoplasm by acid-fast organisms. Nevertheless, it is very unusual to diagnose leprosy primarily by lymph node biopsy. Although lymph nodes have been reported to be moderately enlarged in leprosy, in the experience of W. H. Jopling and A. C. McDougall, enlargement is confined to phases of lepra reaction and then there is marked swelling and tenderness, especially of femoral and inguinal groups.

In the present case, the morphology is clearly that of lepromatous leprosy. As in the present case, if a surgeon encounters generalized lymphadenopathy in an elderly patient, with no overt skin lesions or deformities, he is unlikely to suspect leprosy. A clinical suspicion for lymphoma would be more likely. Leprosy is most prevalent in developing nations, and in rural and poor societies with a high degree of illiteracy. A reliable detailed history is usually not forthcoming in these patients. Moreover, if the clinician does not suspect leprosy, he is unlikely to perform a detailed neurological examination. Only a detailed history and examination can avoid misdiagnosis and mismanagement in such patients. Leprosy is a non-fatal and treatable condition, while lymphoma is a malignancy.

*M. leprae* has not been shown to predispose patients to an increased risk of neoplasia, and Hodgkin’s lymphoma has rarely been reported in patients with leprosy. In contrast, several cases of leprosy have been reported in patients with T-cell non-Hodgkin’s lymphoma. In the present case, leprosy preceded the lymphadenopathy by many years.

**Figure 2.** Clustered lepra bacilli (globi) in lepra cells (arrows). Stain: modified Ziehl–Neelsen. Magnification × 1000.
Therefore, it is unlikely that leprosy could have developed in the background of an undiagnosed lymphoma.

To summarize, leprosy can manifest as generalized lymphadenopathy and clinicians practicing in endemic areas should bear this fact in mind.

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References