

# Pulmonary Involvement by Hodgkin's Disease Mimicking Pneumonia

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## Summary

A 24-year-old man who was initially thought to have nocardiosis of his mediastinal lymph node which progressed to involve his right lung, had to undergo a right pneumonectomy when he failed to respond to treatment with sulphadiazine. Histology of the right lung specimen and a subsequent axillary lymph node biopsy revealed that he actually had lymphocyte-depleted Hodgkin's disease.

**Key Words:** Hodgkin's disease, Pulmonary infiltrates

## Introduction

Although the lung is not usually regarded as a lymphoid organ, its interstitium, especially the peribronchial and perivascular areas, are rich in lymphatics<sup>1</sup>. Pulmonary involvement by Hodgkin's disease is often the result of retrograde extension via the lymphatics of bronchovascular sheaths from bulky hilar or mediastinal lymph nodal disease giving rise to bronchovascular lymphangitic infiltrates on chest radiograph<sup>1,2</sup>. Less commonly, nodules and 'pneumonic' infiltrates may arise from small intraparenchymal and subpleural aggregates of lymphocytes in the lung connective tissue<sup>2</sup>.

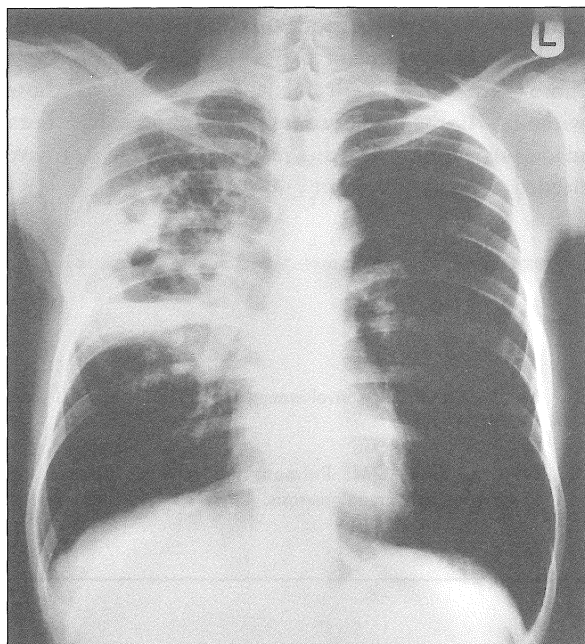
## Case Report

A 24-year-old man presented in March 1993 with anterior chest pain of 2 weeks' duration and weight loss. Physical examination was unremarkable. Chest radiograph and computed tomography (CT) revealed an anterosuperior mediastinal mass with areas of hypodensity within it. The lung parenchyma was normal. Fine needle aspiration of this mass yielded pus which grew *Nocardia brasiliensis*. Histopathological examination of a percutaneous Trucut needle biopsy specimen of the mass revealed nonspecific inflammatory changes with predominance of

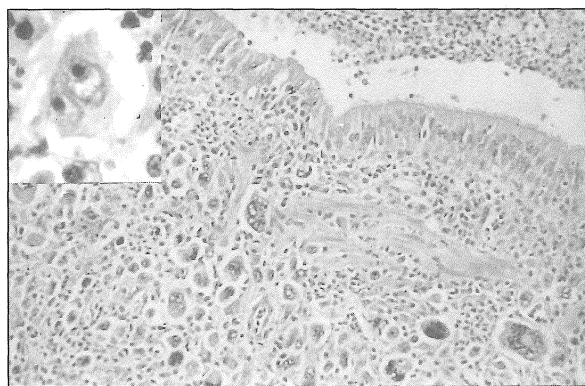
neutrophils and histiocytes but no evidence of malignancy. Investigations to uncover any underlying immunocompromised state, including HIV antibody and CD4/CD8 ratio, were negative. Sulphadiazine 2 gm TID was commenced for nocardiosis. However, he defaulted treatment after one month when his symptoms failed to improve.

In August 1993, he was admitted to another hospital because of progressive weight loss, fever and a nonproductive cough. Chest radiograph then showed multiple cavitating infiltrates in the right upper lobe (Fig. 1). Apart from sterile pus obtained from the apical segment of the right upper lobe, findings of fiberoptic bronchoscopy were normal. Bronchial washings and brushings were negative for malignant cells. Sulphadiazine was recommenced for nocardiosis which was presumed to be incompletely treated despite the negative culture. The patient absconded after a month's treatment when his symptoms continued to progress.

In January 1994, he again presented to our hospital with persistent fever and progressive weight loss. Physical examination was remarkable only for signs of right upper lobe consolidation. Chest radiograph showed extensive right upper and middle lobe destruction. He underwent surgery to clear the



**Fig. 1:** Chest radiograph showing cavitating alveolar infiltrates in the right lung



**Fig. 2:** Peribronchial infiltration by pleomorphic multinucleated giant cells of Hodgkin's disease. H&E x 100. Inset shows a classical Reed-Sternberg cell. H&E x 200

infection and to obtain a definite diagnosis. At thoracotomy, pus-like material was noted in the right upper and middle lobes and to a lesser extent, the lower lobe as well. The right lung was grossly adherent to the chest wall and the mediastinal structures could not be identified. Right pneumonectomy was performed.

Histopathological examination of the right lung revealed diffuse infiltration by pleomorphic multinucleated giant cells in a background of neutrophils, plasma cells and some lymphocytes. Classical Reed-Sternberg cells were also identified. In many areas, the infiltration was peribronchial (Fig. 2). The features were those of Hodgkin's disease, lymphocyte depleted type. Stains and cultures were negative for bacteria, acid-fast bacilli and fungi. Two weeks after surgery he developed painful right supraclavicular and bilateral axillary lymph node enlargement. Biopsy of the right axillary lymph node showed histological features similar to that of the lung.

A CT scan of the abdomen revealed hepatosplenomegaly but no enlarged intra-abdominal lymph nodes. He was treated with multi-agent cytotoxic chemotherapy which consisted of alternating cycles of a combination of doxorubicin, bleomycin, vinblastine and dacarbazine and a combination of cyclophosphamide, vinblastine, procarbazine and prednisolone. With this treatment, he became afebrile, gained weight and the enlarged superficial lymph nodes and hepatosplenomegaly regressed.

### Discussion

In one series, lung involvement was seen in 43% of patients with Hodgkin's disease<sup>2</sup>. The histology of secondary pulmonary Hodgkin's disease is identical to that of nodal Hodgkin's disease. The unusual feature about this patient's lymphoma is its tendency to undergo necrosis and thus mimic an infection. This led to the delay in arriving at the correct diagnosis. The mediastinal mass which he had at presentation was likely to be enlarged lymph nodes which were the initial site of lymphomatous involvement. The pus-like material aspirated from these mediastinal nodes was probably inflammatory exudate similar to that found in the lung and the superficial lymph node. As subsequent attempts to confirm an infective process were unsuccessful, the isolation of *nocardia* organism at his initial presentation could not be explained. The presence of multinucleated giant cells in the lung and lymph node specimens probably represents a localized response to the lymphoma<sup>3</sup>.

According to the Ann Arbor staging system, pulmonary involvement by direct extension from hilar nodes is a

manifestation of local disease. It is categorised as stage IIE (nodal disease with direct extension to an adjacent extralymphatic site) if it is confined above the diaphragm. The extensive lung involvement and hepatosplenomegaly in this patient means that he was having stage IV disease.

Lung involvement by Hodgkin's disease responds well to chemotherapy and of patients given chemotherapy, those with lung involvement fare as well as those without<sup>2</sup>. If the diagnosis of a lymphoma had been made preoperatively in this patient, he would not have needed a pneumonectomy.

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# Primary Non-Hodgkin's Lymphoma of the Cranial Vault Mimicking a Meningioma : A Case Report

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## Summary

Primary non-Hodgkin's lymphoma of the brain is rare. Majority of the lesions are intraaxial, multicentric and involve the leptomeninges. We report a case of malignant primary non-Hodgkin's lymphoma arising from the cranial vault. Computed tomography of the brain showed an extraaxial lesion in the right parietal region mimicking a meningioma.

*Key Words:* Primary, Non-Hodgkin's lymphoma, Cranial vault, Meningioma

## Introduction

Primary cerebral non-Hodgkin's lymphoma of the brain is rare. The incidence however has increased 10-fold during 1973-1990<sup>1</sup>. Majority of the lesions are

intraaxial<sup>3</sup>. Though rare, malignant primary non-Hodgkin's lymphoma arising from the cranial vault has been reported<sup>2</sup>. We reviewed the literature and found only five reports of primary non-Hodgkin's lymphoma arising from the cranial vault.