Hodgkin's lymphoma presenting as lytic sternal swelling

Sir,

Hodgkin's lymphoma may involve various organs including lymph nodes, spleen, liver, pleura and bone. Involvement of bone is relatively uncommon and has been reported in about 7% of cases.[1] If present however the commonly involved bones are vertebrate, ribs, pelvis, long bones and sternum. The lesions may be lytic or sclerotic or mixed.[2] The most common subtype of Hodgkin's involving the bone is nodular sclerosis type.[2] Solitary osseous involvement is rare and concomitant non osseous organ involvement is more common. The 5-year survival of the disease is

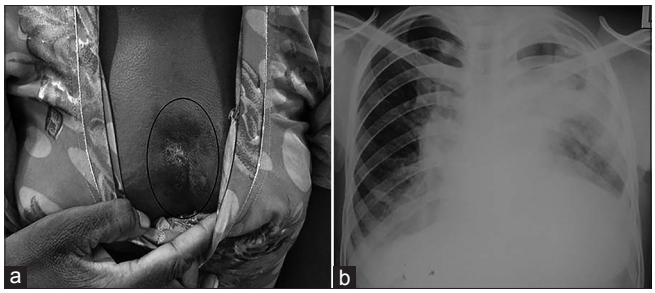

Figure 1: (a) Swelling present over the lower part of sternum (encircled) (b) Chest X ray shows left upper lobe fibrocavitatory lesion with left pleural effusion

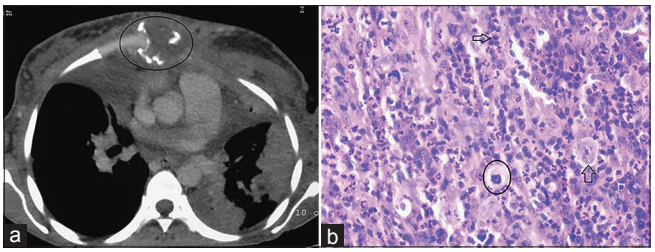

Figure 2: (a) CT chest shows a sternal lytic lesion compressing over the heart and major vessels (b) Excisional cervical lymph node biopsy shows infiltration with variant of Reed Sternberg cells (vertical arrow), eosinophils (horizontal arrow), neutrophils, plasma cells and lymphocytes showing mitosis (encircled)

relatively good and is around 56-89%.[3] We would like to present a case of Hodgkin's lymphoma affecting multiple organs including sternum. The diagnosis was delayed because of evidence of granulomas and epithelioid cells on cytopathology and the patient was mistreated for tuberculosis.

A 30-year-old female presented with central chest pain since 1 year which was stabbing in nature and since past 6 months it increased with inspiration. Swelling over the sternum appeared 10 months back [Figure 1a- encircled]. She had progressive shortness of breath since 3 months which was accompanied by orthopnea. She also complained of loss of weight and appetite. Previous fine-needle aspiration cytology of the sternal swelling had revealed granulomas and epithelioid cells on the basis of which she had been receiving anti-tubercular treatment (ATT) since past 5 months. She had also received a course of ATT 5 years back for pulmonary tuberculosis. She presented to us with progressive dyspnea despite treatment. Physical examination revealed a sternal swelling and multiple enlarged cervical lymph nodes. Abnormal blood tests included raised total leukocyte counts (24,700/μl, normal range 4000-11000/μl). Chest X ray revealed a left upper lobe heterogeneous lesion with cavitation and bilateral pleural effusion [Figure 1b]. Pleural fluid was lymphocytic (cells = 1500/cm^3, 96% lymphocytes), exudative with low adenosine deaminase (ADA = 17.9 IU/L), negative for malignant cytopathology and Mycobacterium tuberculosis PCR. Computed tomography of chest [Figure 2a] revealed sternal lytic lesion (encircled) compressing the heart, bilateral pleural effusion and fibrocavitory lesion involving the left upper lobe. CT abdomen revealed hepatosplenomegaly, ascitis and enlarged lymph nodes in pre and para-aortic regions. An excisional cervical lymph node biopsy [Figure 2b] revealed infiltration with variant of Reed Sternberg cells (vertical arrow), eosinophils (horizontal arrow), neutrophils, plasma cells and lymphocytes showing mitosis (encircled). The overall morphology of the lymph node was suggestive of mixed cellularity type of Hodgkin's lymphoma. Immunohistochemistry revealed staining with CD15 and CD30 suggestive of Hodgkin's lymphoma. The patient was given Adriamycin, Bleomycin, Vinblastine and Dacarbazine. She however succumbed to the disease after 1 cycle of chemotherapy and died.

Hodgkin's lymphoma (HL) is a common B-cell-derived lymphoma and may sometimes have unusual presentations. There are five histopathological variants of HL including mixed cellularity, nodular sclerosis, lymphocyte depleted, lymphocyte rich and nodular lymphocyte predominant HL (NLPHL).[4] Granulomas may sometimes be visible in Hodgkin's lymphoma[5,6] and these patients are often mistreated for tuberculosis or sarcoidosis.[7] Other granulomatous diseases include toxoplasmosis, Kikuchi-Fujimoto's disease and certain malignancies like malignant lymphomas. Previous cases of granulomatous reaction in Hodgkin's lymphoma have been reported in lymph nodes,[6] spleen[5] and bone.[2] Strong clinical suspicion and inadequate response to ATT should prompt further histopathological work-up. Our patient also had low ADA in pleural fluid and poor response to ATT, further emphasizing the role of histopathology for diagnosis. The sensitivity and specificity of pleural fluid ADA levels in various studies ranges from 72% to 95% and 81% to 87%, respectively.[8,9] Thus, a low ADA makes a diagnosis of tuberculosis less likely. In such cases demonstration of acid-fast bacilli in the biopsy specimen or histopathology is essential to make a diagnosis. Immunohistochemistry also plays an important role in confirming the diagnosis of HL, as evident in our case. CD30 is positive in almost all cases of HL and CD15 is positive in 80% cases of HL.[10]

Clinically Hodgkin's lymphoma presents with painless and rubbery lymph nodes. B symptoms which include fever, night sweats and loss of weight (>10% in less than 6 months) are seen in 25% cases. Sometimes HL may present with mediastinal lymphadenopathy with or without superior vena cava obstruction.[11] Pleural effusion is seen 15-45% of cases depending on tumor staging and extra-nodal involvement.[12] Chylothorax[13] has also been reported in the literature. Abdominal involvement includes lymphadenopathy, hepatomegaly, splenomegaly and ascites. Bone marrow involvement is seen in only 5-8% cases.[14] The above patient presented with sternal swelling, cervical lymphadenopathy, pleural effusion, hepatosplenomegaly and ascites. Early osseous involvement is rare and often the bone is involved at a

later stage. The sternal swelling with pressure on her heart, probably explains her orthopnea. Moreover, she had B symptoms that included loss of weight, which explains her poor prognosis.

The above case is being presented to highlight few peculiarities. Firstly, though a rare presentation, Hodgkin's lymphoma may involve the sternum and a differential for HL should always be kept in cases of osseous involvement. Second, epithelioid cells and granulomas may sometimes be visible on pathology in HL. Third, multiple organ involvement, strong clinical suspicion and inadequate response to treatment were indications to an alternate diagnosis. Fourth, further histopathological examinations with immunohistochemistry are useful in such cases.

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