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CASE REPORT

Primary Diffuse Large B Cell Lymphoma Presenting as Chest Wall Mass: A Case Report

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ABSTRACT

Primary chest wall masses or tumors can be of two types, either benign or malignant. Diffuse large B cell lymphoma (DLBCL) is an aggressive type of non-Hodgkin lymphoma (NHL). Though an aggressive malignancy, with timely and appropriate treatment, approximately two-third of all patients can be cured. We present a rare case of DLBCL presenting as chest wall mass. This case suggests the possibility of the presence of primary malignant B cell lymphoma, with the presentation as a chest wall lesion.

Keywords: Chest mass, Diffuse large B cell lymphoma, Mass, Non- Hodgkin's lymphoma**.**

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Introduction

Diffuse large B cell lymphoma (DLBCL) is one of the most common types of non-Hodgkin lymphoma (NHL).[1] Though they mostly involve lymph nodes, extra nodal involvement is seen in 30% of the cases.[2] Among these extra-nodal sites, soft tissue involvement is rarely seen and very rarely as chest wall mass. Soft tissue masses are sometimes misdiagnosed as soft tissue sarcoma. Since these two disease entities differ in treatment and prognosis, their timely diagnosis is essential for management.[3,4] This case report highlights the importance of including DLBCL in differential diagnosis of chest wall mass.

Case Presentation

A 65-year-old male resident of Rawalpindi, city of Pakistan, with no previous known comorbidities, but smoker (35 pack year), presented in emergency department with the history of chest wall mass for the past 2 months, undocumented weight loss and shortness of breath with complain of stridor for 3 days. The mass was on left side of the chest wall and was progressively increasing in size. Shortness of breath progressed from MMRC grade 2 to grade 4, associated with stridor. There was no history of chest pain, cough, hemoptysis, fever, orthopnea, Paroxysmal nocturnal dyspnea (PND), night sweats or trauma. On arrival, patient was in distress and was having stridor with 94% oxygen saturation at room air, tachycardia (126 beats/min) and tachypnea (30 breaths /min). Systemic examination revealed

swelling of 7 into 8 cm size, extending from 2nd to 8th left intercostal space upon inspection, non-tender, firm to hard in consistency, immobile, with overlying skin non adherent with irregular margins upon palpation, resonant though-out the lung field and dull over the swelling upon percussion and bilateral monomorphic wheeze more on left side along with stridor upon auscultation.

Indirect laryngoscopy was done which showed right vocal cord fixed and left vocal cord mobile. In addition to this, there was one more swelling observed on anterior aspect of right thigh, 3 into 4 cm in size, firm in consistency, irregular margins, fixed to underlying tissue with overlying skin pinch able. During admission, multiple laboratory blood tests were done including total leukocyte count which was slightly raised (15000 cells/mm^3 with 96% neutrophils and 2% lymphocytes), raised serum uric acid levels 13.6 mg /dl (reference:3.5-7.2 mg/dl) , and slight decrease in serum albumin levels 3.1g/dl (reference:3.4-5.4 g/dl), normochromic normocytic blood picture with neutrophilic leukocytosis on blood peripheral film. Rest of the lab values including hemoglobin, platelet count, ESR, CPK, serum calcium, serum electrolytes, liver function tests and renal function test, were within normal ranges.

As an initial imaging, chest X-ray was done which showed enlarged cardiac silhouette and left sided extra pleural opacification. Ultrasound chest was done which revealed minimal right sided pleural effusion along with the streak of free fluid in left pleural cavity. Computed tomography of chest with contrast showed heterogeneous soft tissue density area measuring 23x18 (APxT) in dimensions involving right sided vocal cord causing narrowing of laryngeal lumen (residual lumen of 10mm at this site) and extend caudally involving right lobe of thyroid gland which appears enlarge. No surround erosion or distortion noted. A heterogeneous soft tissue density area measuring 15x5x12mm (CCxAPxT) was noted involving left hemithorax, it was insinuating between anterior muscles of chest wall and reaching upto anterior aspect of pleura of left lung, also involving all muscles of left hemithorax. Another heterogeneous mass soft tissue density lesion approximately measuring 10x6x7cm (CCxAPxT) was noted involving right hemipelvis, involving right iliopsoas muscle and causing elevation and abutting right common iliac vessels and its branches. Under lying bone appeared normal and no erosion was noted.

Ultrasound of right leg showed soft tissue swelling anterior to tibia with internal blood flow and no adjacent bony reaction. Given the patients symptoms of painless progressive mass, combined with findings on chest imaging, the provisional diagnosis was deduced to be a lymphoma.

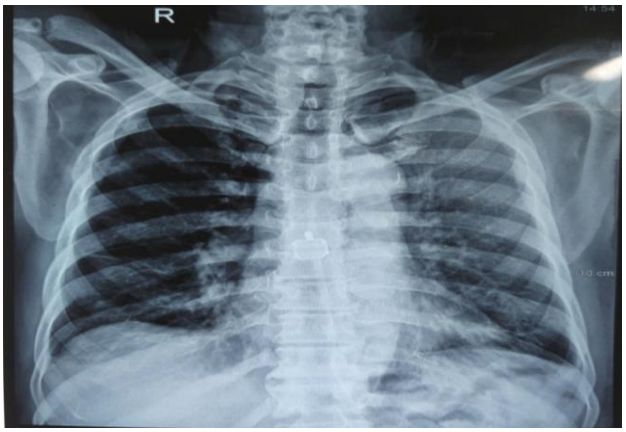

Figure 1: Chest X-Ray PA View

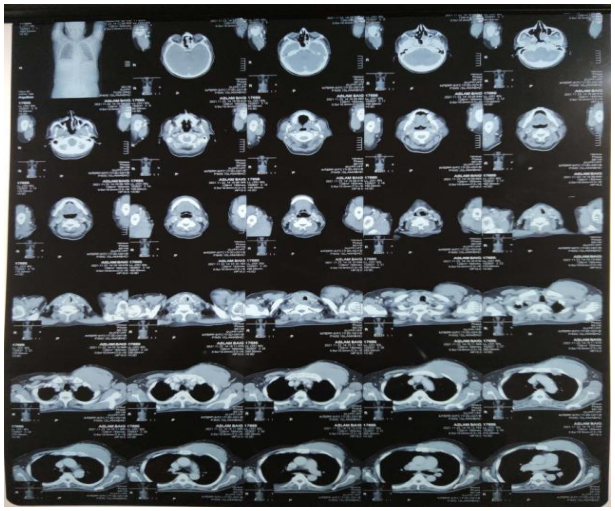

Figure 2: CT Scan Chest with contrast

Trucut biopsy of chest mass revealed patchy infiltrates of cells with hyper chromic friable nuclei and minimal cytoplasm. Immunohistochemical staining was positive for (CD-45, LCA) and negative for epithelium maker cytokeratin, representing atypical lymphoid infiltrate. Additional immune-stains were taken on this small biopsy (CD-3 and CD-20), which indicated cellular infiltrate composed of CD-20 positive in B-cells, with possibility of malignant B-cell lymphocytes.

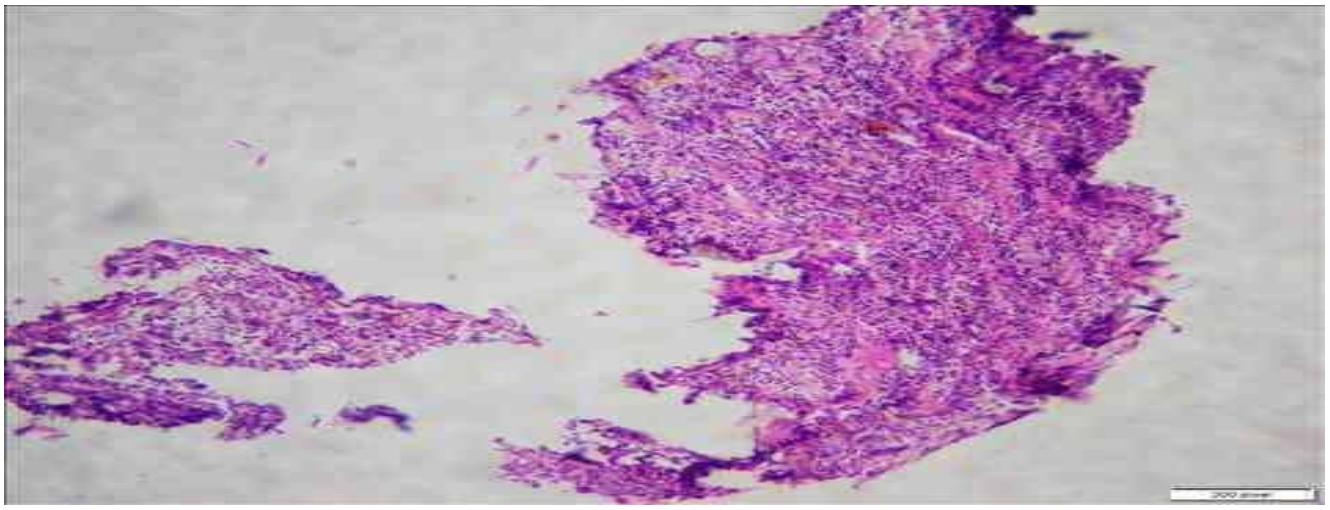

Figure 3: Histopathological and Immunohistochemistry Sections

Discussion

Chest wall tumors are of various entities and may be both benign and malignant. Primary chest wall lymphoma is a very rare, yet a treatable condition.[5] In a retrospective study found in a literature, out of total 157 patients with non-Hodgkin lymphoma, only 7 presented with large chest wall mass.[6] Few reports state that DLBCL is most common type of primary chest wall lymphoma.[5] There is mostly some predisposing disease like chronic tuberculous pyothorax or tuberculous pleuritis, our case however had no predisposing disease or any comorbidities.[7] Majority of cases of NHL are of B cell origin, especially in adults.[8] Single chest wall masses are uncommon, but those appearing mostly represents non Hodgkin lymphoma, commonly large cell type.[9] Majority of chest wall masses presents as metastasis.[5] Patients always present with non-specific symptoms which is the most common reason for delay in a diagnosis until radiology and histopathology confirm the diagnosis.[10] Surgical treatment including local excision, chest wall resection followed by reconstruction surgeries,

along with chemotherapy can result in good prognosis in some of the cases.[11],[12]

Conclusion

Diffuse large B cell lymphoma presenting as a chest wall mass, is a rare entity but should always be considered in differential diagnosis of chest wall, so that it can be treated early with a better prognosis.

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