INTRODUCTION

Posterior mediastinal liposarcomas are rare and present late due to the inherent nature of the lesions. Primary mediastinal liposarcomas are rare, representing less than 1% of all mediastinal tumors; because of this rarity, documentation in the literature is limited. The symptomatology depends on the size and location of the lesion and its relation to the adjacent structures. Fat-containing lesions may not produce a distinct shadow on the radiographs as fat and lipid do not attenuate the X-rays. Hence, such lesions may remain undetectable on routine radiographs unless they are calcified. Computed tomography (CT) and cross-sectional imaging have taken rapid strides in the accurate diagnosis of fat-containing lesions in the mediastinum. CT has an important role in the pre-operative assessment of the lesion in assisting the surgical approach to the mass lesion. CT also has a role in guided imaging of these lesions to help in accurate pre-operative histopathological diagnosis. The final histopathology is essential in prognosis of the case. Our case presented with dysphagia and reflux due to the extrinsic compression of the esophagus and hence laid to his detailed evaluation.

CASE REPORT

This was a 40-year-old male who had symptoms of cough with scant white mucoid sputum and complained of anorexia and significant weight loss over the past 6 weeks. He also had retrosternal pain and throat discomfort and dysphagia and was being treated as gastro-oesophageal reflux disease (GERD) without any relief for the past 6 months. He was a non-smoker and did not consume alcohol. He had multiple chest radiographs for the same complaints and these were reported normal in the hospitals that he had visited. An incidental ultrasound examination performed outside was suggestive of a rounded mass-like opacity measuring 9-10 cm in the posterior mediastinum above the diaphragm, and he was referred to us for further work-up of the same. On evaluation, the patient was conscious, afebrile with normal vital signs. General and respiratory system examination was unremarkable. Blood reports revealed an elevated ESR (patient value: 59 mm/1st hour, reference range: 0-9 mm/1st hour). Tests of renal function and liver function were within normal limits. Pulmonary function test showed mild restrictive impairment (FEV1/FVC: 97% of predicted, FEV1: 56% of predicted and FVC: 58% of predicted with no significant bronchodilator reversibility in any of the parameters). The frontal chest radiograph was studied and a chest radiograph was also performed, which showed a vague haziness in the lower zones and silhouetting the posterior cardiophrenic angles [Figure 1a and b]. Sputum cytology for malignant cells was negative. A contrast-enhanced CT of the chest revealed a large fat density measuring 19.4 cm × 6.8 cm × 13.5 cm in the mid and posterior mediastinum.
involving the pre- and paravertebral regions and retrocardiac region, suggesting the possibility of either liposarcoma or teratoma [Figure 1c and d]. In view of the CT findings, serum markers for germ cell tumors were tested, namely LDH (patient value: 370 units/L, reference value: 240-480 units/L), α-fetoprotein (patient value: 0.575 IU/mL, reference value: 0-5.8 IU/mL) and β-HCG (patient value: 0.100 mIU/mL, reference value: Up to 2.6 IU/mL), all of which were within normal limits. A videobronchoscopy revealed an extrinsically compressed right lower lobe with no identifiable endobronchial growth [Figure 2]. Bronchial wash and brush was negative for malignant cells. A gastro-duodenoscopy showed the esophagus to be extrinsically compressed from 28 cm downwards till the gastroesophageal junction. A 2D echocardiography showed an extracardiac mass compressing the left atrium in addition to a mild anterior mitral leaflet prolapse. After counseling the patient and taking an informed consent, a CT-guided fine needle aspiration and biopsy (FNAC and FNAB) was performed from the lesion [Figure 3]. FNAC suggested a differential diagnosis of either a spindle cell sarcoma, probably a liposarcoma, or a malignant teratoma. FNAB showed vacuolated cells (lipoblasts) with marked nuclear atypia and indistinct cytoplasmic membrane and hyperchromatic nuclei [Figure 4] thus confirming the histopathological diagnosis in our patient to be liposarcoma. A cardiothoracic surgery opinion was sought and the patient was advised exploratory thoracotomy and removal of mass under a very high-risk consent in lieu of possible infiltration into the pericardial layers and esophagus. The patient was discharged on request with instructions to follow-up with the surgeon.

**DISCUSSION**

Mediastinal liposarcomas are rare. We report the rare case of a giant liposarcoma of the posterior mediastinum presenting with symptoms of dysphagia and esophageal reflux due to extrinsic compression. Such a large lesion was missed on routine clinical evaluation and radiographic evaluation due to the inherent fatty nature of the lesion and its inability to produce a shadow on the radiograph.

Liposarcomas are the most common soft tissue sarcoma of adults, usually arising in the extremities or the retroperitoneum. Primary mediastinal liposarcomas are rare, representing less than 1% of all mediastinal tumors;[3] because of this rarity, documentation in the literature is limited.

Previous papers have quoted that mediastinal liposarcomas constitute less than 3% of all liposarcomas, and that 9% of the primary sarcomas in the mediastinum are liposarcomas.[3]

Hahn and Fletcher reviewed 24 cases of primary mediastinal liposarcoma, in which 7/24 were in the posterior mediastinum. The age range varied from 2 years to 72 years, with a median of 58 years, and the most common histologic diagnosis was well differentiated.[3]

Liposarcomas involving the anterior mediastinum and thymus have been described more frequently in the literature.[4]
The symptomatology depends on the size and location of the lesion. Our case presented with dysphagia and reflux due to the extrinsic compression of the esophagus and mild dyspnea due to the extrinsic compression of the lower lobe bronchus.

Surgery is the treatment of choice. The prognosis depends on the location and size of the lesion and the infiltration into adjacent organs and the histopathological correlation. Patients with well-differentiated histology have a longer clinical course in contrast to the pleomorphic and poorly differentiated ones.

This lesion is different from the esophageal liposarcoma as there was no infiltration into the esophageal mucosa. Primary liposarcoma of the esophagus has been reported where the lesion is seen to present as a polypoidal fat-containing lesion involving the esophageal mucosa and infiltrating the mediastinum. This lesion is described as a primary posterior mediastinal liposarcoma only indenting the adjacent viscera.

Such a large lesion was missed on routine clinical evaluation and radiographic evaluation in the past due to the inherent fatty nature of the lesion and its inability to produce a shadow on the radiograph. Our case presented with dysphagia and reflux due to the extrinsic compression of the esophagus and mild dyspnea due to the extrinsic compression of the lower lobe bronchus. CT scan and CT-guided FNAC and biopsy were the diagnostic modalities.

REFERENCES

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