Giant Posterior Mediastinal Lipoma: A Case Report

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Lipomas are the common benign tumors present in subcutaneous tissue. However, deep seated lipomas are rarely seen in thoracic cavity and often in anterior mediastinum and tend to be larger than cutaneous ones. Such deep seated lipomas need to be carefully differentiated from the malignant variants such as liposarcoma or infiltrating tumor spread. Approach and designing a surgical scheme was challenge for us. Here we sought to review our surgical experience with intrathoracic huge lipoma.

Keywords: giant lipoma, intrathoracic lipoma, surgery.

Intrathoracic lipomas are of great rarity and giant benign lesions are even more infrequent.[1] They are often asymptomatic and likely to depend on their site and size. They may occasionally lead to manifestations including coughing, dyspnea, or even death depending on mass effect.[2] Such deep seated lipomas need to be carefully differentiated from the potential of malignancy such as liposarcoma or infiltrating tumor spread.[1] The differential diagnosis of fat-containing intrathoracic tumors includes fibro-lipoma, liposarcoma, teratoma, hibernoma and fibro-lipomatous hamartoma. Intrathoracic lipomas can be distinguished radiologically from other tumors by the following characteristics: they are well defined, homogeneous and round, and have regular margins and a density that is like that of fat (approximately – 100 HU). In contrast to lipomas, the other lesions listed above are not homogeneous, contain soft-tissue components and are infiltrative and much larger than lipomas; their CT density is

≥ 50 HU.[3]

Case Report

A 60-year-old man presented with a history of chronic cough, which had been causing problem for approximately one year. It was associated production of sputum, thick in consistency, whitish but not stained with blood. He also gave history of decreased appetite since last 6 months and weight loss of 15 kilograms. He had occasional shortness of breath, but no dysphagia or difficulty on lying. He is a known case of hypertension under Amlodipine. He admits that he is a smoker but does not consume alcohol. The initial physical findings and routine lab investigations were normal. However, plain chest X-ray revealed well defined opacity in retro-cardiac and right Para-spinal area suggestive of mediastinal mass **(Figure 1A,**

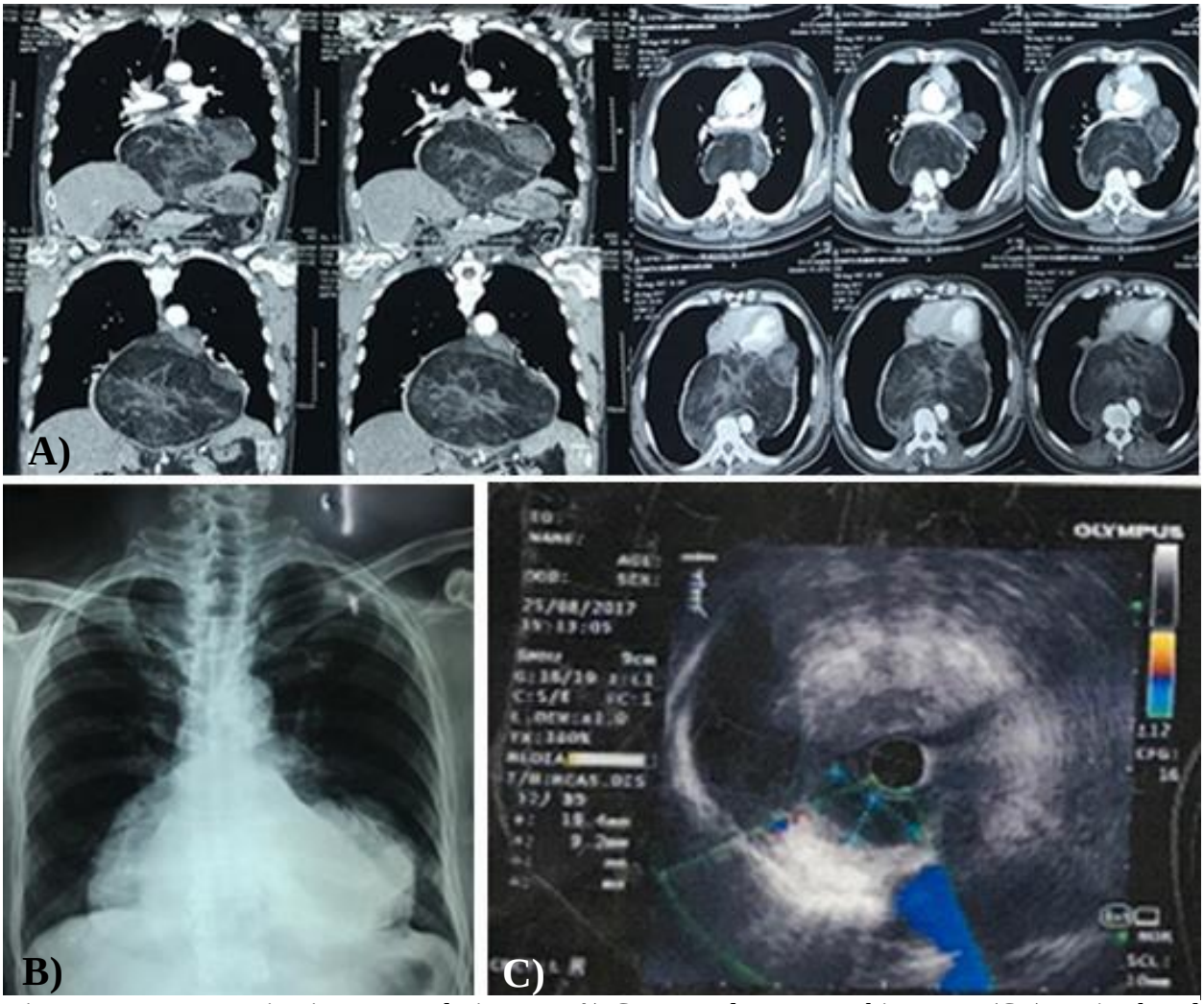

Figure 1: Pre-operative images and pictures, A) Computed tomographic scans (CT) sagittal and axial views revealing the posterior mediastinal mass (-40 HU), B) Chest X-ray, PA view showing well defined opacity in retro cardiac and right Para spinal area, C) Endoscopic Ultrasound showing hyperechoic lesion abutting aorta and heart

B).

CECT Chest and Abdomen done to further evaluate the lesion, which showed huge (17cmX14cmX11cm) well-defined fat containing lesion with septation in the lower part of posterior mediastinum with encasement of descending thoracic aorta, vertebral bodies and anterior displacement of heart and thoracic esophagus. These features were suggestive of posterior mediastinal lipoma. As CT guided biopsy could not be done because of risk of injury to adjacent organs. Therefore, endoscopic ultrasound guided FNAC of mass **(Figure 1C)** done.

During endoscopic ultrasound, the scope could not be passed beyond the midoesophagus due to extrinsic compression. Mass could be seen in the mediastinum abutting the aorta and the heart.

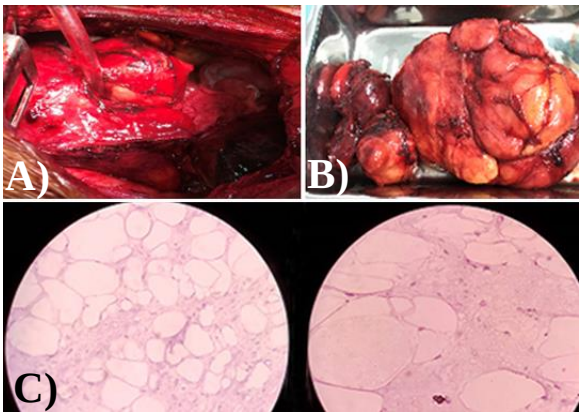

Figure 2: Intra-operative pictures, A) Left posterolateral thoracotomy through sixth intercostal space, B) Resected specimen, huge mass, C) Histopathology slide showing adipocytic cells

FNAC reported as squamous cells and fat droplets with few mature adipocytes and negative for malignant cells.

Then the patient underwent left open thoracotomy and resection. Intraoperatively, there was a large encapsulated mass of size 30 x 15 cm and weighing 2 kg in the posterior mediastinum pressing the aorta, esophagus, lower lobe of left lung, inferior pulmonary artery, pericardium and diaphragm, which was extending to right lung and no visible lymph nodes present **(Figure 2A, 2B).**

Histopathology came to be consistent with lipoma **(Figure 2C).** His postoperative period was uneventful and his two-month follow up is satisfactory **(Figure 3).**

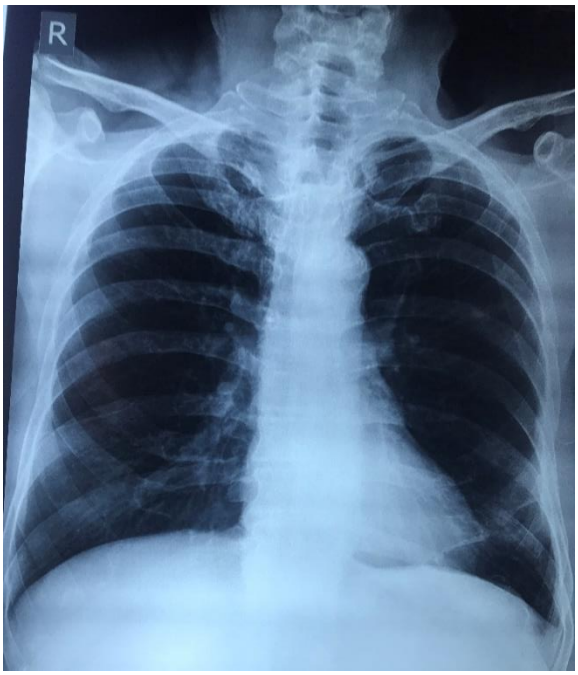

Figure 3: Figure 8: Post-operative chest X-ray after two months showing normal lung fields and cardiac shadow

Discussion

Lipomas are benign mesenchymal tumors, composed of mature adipocytes. It has unknown etiology and appears between 40 and 60 years of age. These occur more

frequently in females with male female ratio about 4:5 and more common in obese persons.[1] Our case was of posterior mediastinum lipoma which is even more rare. Intrathoracic lipomas are classified into "intrathoracic lipomas" (if they are entirely within the thoracic cage) and "hourglass thoracic lipomas" (if they have intra- and extra-thoracic portions). Hourglass thoracic lipomas are further subdivided into cervicomediastinal and transmural lipomas.[4] Lipomas are histologically classified into conventional lipoma, angiolipoma, spindle cell lipoma, pleomorphic lipoma, benign lipoblastoma, and angiomyolipoma. Conventional lipomas are composed of sheets of mature adipocytes separated by fibrous, incomplete septa, with no mitotic activity.[4]

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The diagnostic gold standard for individuals suspected to have deep-seated lipomas is noninvasive imaging, such as ultrasound, computed tomography (CT), or magnetic resonance imaging (MRI). Although percutaneous needle biopsy is feasible in most cases, there are two reasons not to perform a percutaneous needle biopsy. The first reason is a symptomatic lipogenic tumor for which surgical resection is indicated. The second is when the lesion is very large, since a normal biopsy result might not be sufficient to exclude a sarcomatous lesion.[5]

Treatment is complete surgical excision and biopsy. Surgically, these lesions are generally attached to the thoracic structure by pedicles, and it is possible to remove by ligation of the pedicle.[4] However, due to its difficult anatomical location and mass encroaching the great vessels and vital organs, it was a challenge for us and in the back of mind we were worried if we would not be able to completely resect the tumor. Local recurrence of intrathoracic or mediastinal lipomas is uncommon if completely resected and reported to be less than 5%. Additionally, deep-seated lipomas seem to have a greater tendency to recur due to the difficulty of complete surgical removal.[1] Another concern was the potential of being well differentiated liposarcoma and not just simple lipoma.

Conclusion

Even though benign intrathoracic lipomas are not usually associated with mortality, they may be associated with certain symptoms and morbidity based on their location and size. Giant tumors may well be malignant and as such, must always be ruled out.

References

1. Sakurai H, Kaji M, Yamazaki K, Suemasu K. Intrathoracic lipomas: their clinicopathological behaviors are not as straightforward as expected. The Annals of thoracic surgery 2008;86:261-5.
2. Chen M, Yang J, Zhu L, Zhao H. Intrathoracic giant pleural lipoma: case

report and review of the literature. Journal of Cardiothoracic Surgery 2013;8:196.

3. Madani Y, Oozeerally Z, Syed I, Jubber A. Intrathoracic chest wall lipoma: mimicking a soft tissue neoplasm on a chest radiograph. Clinical Medicine 2013;13:628.
4. Margiotta G, Carlini L, Carnevali E, Lancia M, Gabbrielli M, Bacci M. Giant diaphragmatic lipoma: Two autopsy case reports and review of the literature. Journal of forensic sciences 2015;60:1640-3.
5. Chen C-H, Chang H, Tseng P-Y, Hung T-T, Wu H-H. A rare case of dysphagia and palpitation caused by the compression exerted by an enormous mediastinal lipoma. Revista Portuguesa de Pneumologia 2012;18:149-52.