

Giant Pericardial Lipoma: Unusual Cause of Intrathoracic Mass

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Abstract

Introduction: Pericardial lipomas are rare clinical findings. We describe a case of pericardial/epicardial lipoma seen recently at our hospital. **Clinical Picture:** A 68-year-old lady presented with a 1-year history of dull aching upper abdominal pain. A chest X-ray revealed a large mass lesion in the right hemithorax. Computed tomography (CT) scan of the chest defined the nature of the lesion. CT-guided fine needle aspiration cytology showed mature fat cells. **Treatment:** The large lipoma (19 x 10 x 4 cm, 1500 g) was completely excised along with a block of the parietal pericardium; through standard right posterolateral thoracotomy. **Outcome:** The patient had an uneventful postoperative recovery. She is currently asymptomatic and has no evidence of recurrence at 18 months follow-up. **Conclusion:** Lipomas in the thoracic cavity are rare and pericardial lipomas even rarer. These are best identified on imaging studies including a CT scan. Complete surgical excision of the lipoma is the only mode of treatment and adequate surgery the only way to prevent future recurrences

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Introduction

Cardiac and pericardial lipomas are very rare tumours. They remain asymptomatic for a long time and produce symptoms, if at all, by the virtue of their size.

We report a case of pericardial lipoma recently seen at our hospital. The patient was successfully treated with a complete resection of the lipoma along with a part of the pericardium.

Case Report

A 68-year-old lady from central India presented with a 1-year history of constant dull aching pain in the epigastrium and right hypochondrium. She had undergone an open cholecystectomy for symptomatic gallstones about 8 years earlier and was well subsequently. A chest X-ray done during investigations for the present complaint showed a large mass in the region of the right hemithorax; occupying the entire right hemithorax and pushing the lung upwards. A computed tomographic (CT) scan showed a large mass occupying the inferior part of the right hemithorax and pushing the lung superiorly. The mass was seen to be indenting the diaphragm. A CT-guided fine needle aspiration (FNA) showed only mature fat cells and raised

the suspicion of a lipoma. She underwent surgical exploration through a right posterolateral thoracotomy through the 5th interspace. A large mass occupying the entire right hemithorax was seen. A diffuse unencapsulated fatty mass was identified presumably arising from the parietal pericardium. A few flimsy diffused adhesions existed between the mass and the diaphragm, which were separated. Adhesions between the mass and the lower lobe of the left lung were separated by blunt and sharp dissections. The lower and the middle lobes of the right lung had collapsed completely due to the pressure of the mass. The lipoma was found to be in close proximity to the inferior vena cava (IVC) from which it was successfully separated. The mass was successfully excised *in toto* along with a portion of the parietal pericardium.

The total weight of the mass was 1500 g and it measured 19 x 10 x 4 cm. The final histopathology showed mature appearing lipoblasts. The thymic tissue was not identified. The final diagnosis was a lipoma like a low-grade liposarcoma; arising from the pericardium. Although there were no frank features of a liposarcoma, in view of its large size, it was classified as low-grade liposarcoma. The postoperative recovery was uneventful.

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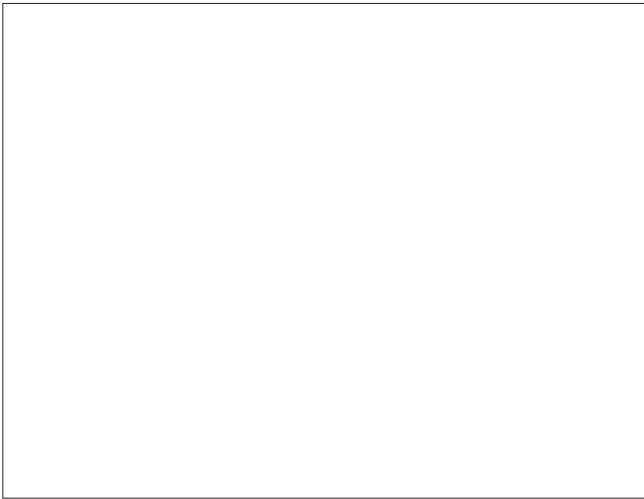


Fig. 1. X-ray film showing lesion in the right hemithorax.

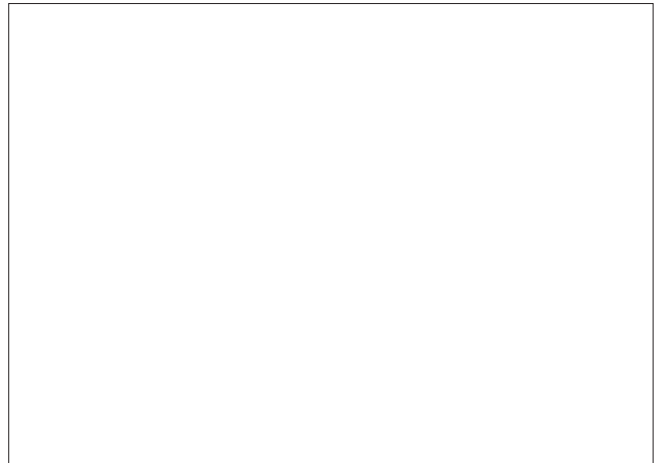


Fig. 2. CT scan (lung window showing the lesion).

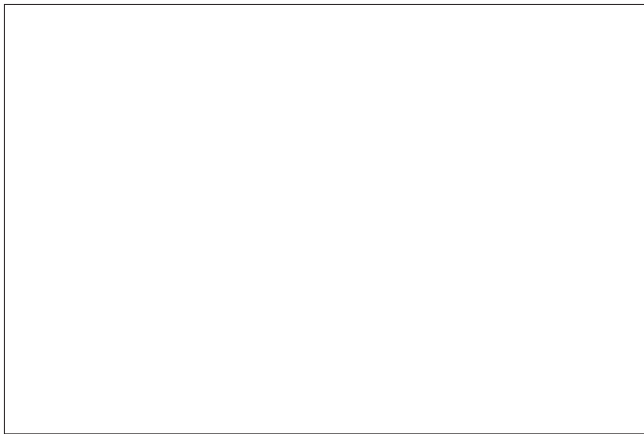


Fig. 3. Specimen of the excised lipoma.

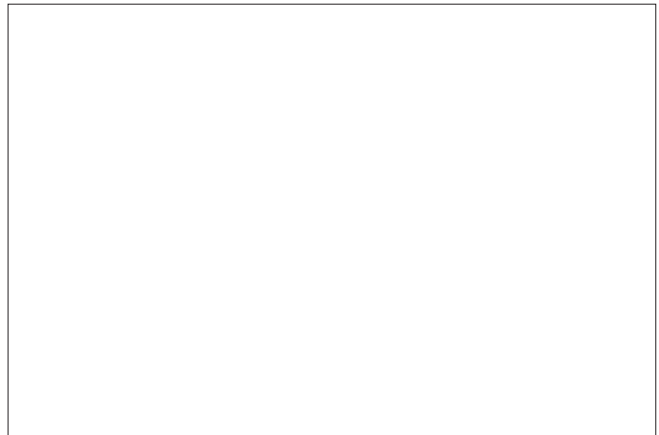


Fig. 4. Specimen of the excised block of pericardium.

Discussion

Lipomas are the most common benign neoplasms of the soft tissues and liposarcomas the most common malignancy of the soft tissue. These tumours are of mesenchymal origin and may or may not contain radiologically demonstrable fat.¹ Primary cardiac tumours are extremely rare and have a reported incidence ranging from 0.0017% to 0.28% in most autopsy studies and 0.2% to 2% in other studies.² These cardiac and pericardial neoplasms may originate in any part of the heart including the pericardium.³ Amongst this group, as expected, cardiac and pericardial lipomas are very rare and only 63 cases have been reported thus far.⁴ Lipomas themselves account for 10% to 14% of all cardiac neoplasms and these, as in our case, are detected as chance findings on X-ray, CT scans or 2D echocardiograms done for other reasons.⁵ These lipomas can arise from the subendocardium, subepicardium or from the myocardium. The symptoms associated with these largely depend on their size at presentation. The symptoms may also be produced by an extension into one of the cardiac chambers.⁶

Large subpericardial lipomas may cause anginal pain by compressing the coronary arteries and may interfere with normal cardiac function by exerting pressure on the cardiac cavities. Extracavitary lipomas are usually asymptomatic and may grow to an enormous size before symptoms occur.⁷ A common manifestation of all symptomatic cardiac and pericardial lipomas is dyspnoea. A lipoma may also produce abnormalities of cardiac contour with disturbance of cardiac filling. It can also cause ejection disturbances secondary to compression of the coronary arteries and extension into the cardiac chambers along with involvement of the cardiac valves leading to valvular disturbances such as mitral and aortic regurgitation.^{6,7}

Lipomas can arise within the myocardium and may interfere with the conduction causing arrhythmias.⁷ CT scan has been found to be a reliable investigation for the diagnosis of cardiac lipoma, as the case in our patient. It can differentiate lipomatous tumours since they have a low radiodensity (-50 to -150 units) from other tumours, such as a myxoma, which have a higher density.⁸ Magnetic resonance imaging (MRI) can differentiate between lipomas

and liposarcomas since a MRI provides a direct multiplanar image with detection of the blood vessels so that extension of the cardiac tumour to the great vessels/pericardium/lungs can be determined. Also a MRI is able to define the vascularity of the lesion which may also help in differentiating between a lipoma and a liposarcoma.⁹ Resection of the lesion is the standard treatment in most of the cases. The prognosis of such patients largely depends on the completeness of the resection. There does not seem to be any role for adjuvant therapy.¹⁰ Very few cases of pericardial/epicardial lipomas/liposarcomas have been described in literature, we believe ours is one such case. In our patient, the lesion arose primarily as a diffuse lipomatous tumour exophytically from the right lateral wall of the parietal pericardium and grew to an enormous size before producing a dull aching pain. A complete excision was possible through a standard posterolateral thoracotomy.

Conclusion

Intrathoracic lipomas and particularly those related to the heart and the pericardium are rare occurrences. These lesions are chance findings on routine investigations, as they remain asymptomatic for a long period before they achieve a large size. CT scan is a reliable imaging modality to diagnose these lesions. The ideal and best treatment for these is a complete surgical excision. There does not seem to be any role for any adjuvant therapy in completely resected cases. Prognosis is related to the completeness of excision.

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