Case 12266

Thymolipoma – A rare incidental thoracic finding
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Section: Chest imaging
Area of Interest: Thorax
Procedure: Diagnostic procedure
Imaging Technique: CT
Imaging Technique: Conventional radiography
Special Focus: Neoplasia Case Type: Clinical Cases
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Patient: 78 years, male

Clinical History:

The patient was referred to further investigate an abnormal radiographic finding. There were no respiratory symptoms and only mild heartburn, interpreted as gastroesophageal reflux and treated with Omeprazole. The patient had normal blood pressure and no fever. Diminished respiratory sounds in the right base were found on auscultation.

Imaging Findings:

Posteroanterior chest radiograph revealed as an incidental finding a well-defined dense area in the lower third of the right hemithorax, silhouetting the right heart border and the right diaphragm (Fig. 1). The findings suggested a mass or combined medial and lower right lobe collapse. No other pulmonary infiltrates were noted. There were no signs of pleural effusion with both costophrenic angles preserved. Contrast enhanced CT of the thorax revealed a large well-defined heterogeneous mass with predominance of fat attenuation values mingled with focal areas of soft tissue density, which extended from the anterior mediastinum to the level of the right diaphragm, displacing the lung superiorly, consistent with thymolipoma (Fig. 2-4). In reformatted oblique MIP a vessel rising from the anterior mediastinum and extending into the mass was seen (Fig. 5). The patient underwent surgical excision of the mass with histological confirmation of a thymolipoma.

Discussion:

Thymolipomas are rare benign thymic lesions, accounting for 2-9% of all thymic tumours [1]. There is no recognized sex predilection and reported age ranges between 3-56 years [2]. These tumours usually demonstrate slow growth and can reach huge dimensions. Most are asymptomatic. Symptoms, when present, are due to mass effect and compression and include pain, cough or dyspnoea [3]. They can be associated with some autoimmune diseases as myasthenia gravis, systemic lupus erythematosus or Graves disease [4].

Frequently an incidental finding in chest radiographs, it presents as a mass that usually drapes over adjacent structures and can simulate cardiomegaly, pericardial masses, atelectasis or pleural effusion. When small, thymolipomas can be limited to the anterior mediastinum.

CT findings include a large well-defined mass reflecting the encapsulation of this tumour. The tumour is composed predominantly (50-85%) of fat-attenuated tissue, representing the mature adipose component and focal and linear areas of soft-tissue representing thymic tissue and fibrous septations. Sometimes, as in this case, the thymic origin of the vessels can be demonstrated. No invasive features are seen. The differential diagnosis includes fat-containing...
lesions such as: teratomas, lipomas and liposarcoma, mediastinal lipomatosis and diaphragmatic hernias [5, 6]. Although the imaging characteristics can be quite specific, malignancy cannot always be excluded based on imaging [7] and therefore surgical resection is undertaken, usually by thoracotomy. Recurrence has not been documented.

**Differential Diagnosis List:** Thymolipoma, Lipoma/Liposarcoma, Teratoma, Mediastinal lipomatosis, Diaphragmatic hernia

**Final Diagnosis:** Thymolipoma

**References:**


Description: Mass-like opacity in the right lower lung zone silhouetting the right heart border and right diaphragm. Origin: Araujo B, Department of Radiology, Hospital de São João, Porto, Portugal.
Description: Large heterogeneous supra-diaphragmatic predominantly fat-containing well-defined mass with scattered foci of soft-tissue. Origin: Araujo B, Department of Radiology, Hospital de São João, Porto, Portugal.
**Description:** Well-defined mass extending from the anterior mediastinum to the level of the right diaphragm. No evidence of invasion is seen. **Origin:** Araujo B, Department of Radiology, Hospital de São João, Porto, Portugal.
Description: The mass displaces the lung superiorly and posteriorly. Right lung base subsegmental atelectasis is seen. No signs of invasion. Origin: Araujo B, Department of Radiology, Hospital de São João, Porto, Portugal.
Description: The thymic origin of the vessel that vascularizes the mass can be identified (arrow).
Origin: Araujo B, Department of Radiology, Hospital de São João, Porto, Portugal.