Pleural fibroma as an incidental finding in chest radiography

Published on 14.11.2018

DOI: 10.1594/EURORAD/CASE.16128
ISSN: 1563-4086
Section: Chest imaging
Section: Hybrid imaging
Area of Interest: Lung Thorax
Procedure: Diagnostic procedure
Imaging Technique: PET-CT
Imaging Technique: CT
Special Focus: Neoplasia Case Type: Clinical Cases
Patient: 50 years, male

Clinical History:

An asymptomatic 50-year-old man that has a chest x-ray performed for a clinical checkup. Blood tests were normal.

Imaging Findings:

Chest x-ray image shows a small opacity in the left lung with well-defined medial margin and non-defined lateral margin, that suggests a pleural-based mass (Figure 1). A chest CT was performed afterwards, which demonstrated a small, homogeneous and smooth mass arising from the pleural surface (Figure 2). There was no bone destruction. PET-CT showed low metabolic activity (SUV max = 2,2) (Figure 3). The mass was surgically removed and it was demonstrated to be a pleural fibroma.

Discussion:

Pleural fibromas, also known as localized fibrous tumors of the pleura or benign mesothelioma, are rare tumors that arise from the pleura [1]. 80% of them originate in the visceral pleural [2]. Although, most patients are asymptomatic [1], they can develop symptoms like cough or chest pain, especially if the tumor is large. Chest pain is more common in tumors originated in parietal pleura [3]. They are usually benign and slow growing [2].

Pleural fibromas appear on chest radiography as round and peripheral masses with an obtuse angle with the chest wall [1]. When the mass is pedunculated, its size or position can change in when the patient changes its position [1, 2]. On CT scans pleural fibromas present as soft tissue masses with homogeneous contrast enhancement. Areas of necrosis or hemorrhage may be present. They rarely show calcifications, rib destruction or invasion [2]. Utility of FDG PET to determine whether the tumor is benign or not is unclear. It can be useful in order to exclude other malignant tumors of the pleura. It cannot replace histological diagnosis [4].

Intercostal nerves tumors must be included in the differential diagnosis as they have a similar appearance on CT scans. Schwannoma is the most common subtype [5].

Pleural fibromas are associated with an increased prevalence of hypoglycemia and hypertrophic pulmonary
osteopathopathy. They do not associate with asbestos exposure [1, 2]. Surgical excision is the treatment of choice. Recurrence is rare [1, 2]. Written informed patient consent for publication has been obtained.

**Differential Diagnosis List:** Pleural fibroma, Intercostal schwannoma, Loculated pleural effusion, Pleural metastases, Pleural lipoma

**Final Diagnosis:** Pleural fibroma

**References:**


Description: PA chest radiography shows a peripheral opacity in the left lung. **Origin:** Department of Radiology. Clinica Universidad de Navarra. Pamplona, Spain.
Figure 2

a

**Description:** Axial CT soft tissue window with a small and well defined mass arising from pleural surface. **Origin:** Department of Radiology. Clinica Universidad de Navarra. Pamplona, Spain.

b

**Description:** Axial CT bone window demonstrating no rib destruction. **Origin:** Department of Radiology. Clinica Universidad de Navarra. Pamplona, Spain.
**Description:** Coronal CT soft tissue window showing a pleural mass. **Origin:** Department of Radiology, Clinica Universidad de Navarra. Pamplona, Spain.
**Description:** PET-CT scan showing a low metabolic activity of the pleural mass. **Origin:** Department of Radiology. Clinica Universidad de Navarra. Pamplona, Spain.