Case 14586

Pulmonary hyalinizing granuloma
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Section: Chest imaging
Area of Interest: Thorax Lung Abdomen
Procedure: Education
Imaging Technique: Conventional radiography
Imaging Technique: CT
Special Focus: Pathology Case Type: Clinical Cases
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Patient: 63 years, male

Clinical History:
A 63-year-old man came to the emergency department of our hospital with complaints of cough and dysphonia for 1 month. Our patient had no fever, weight loss, or history of cancer.

Imaging Findings:
Chest radiograph revealed multiple well-defined lung nodules (Fig. 1). Subsequently, computed tomography (CT) of thorax-abdomen-pelvis was performed to rule out malignancy. CT showed several lung nodules in both lungs with variable size (from 4 millimetres to 2, 4 cm) (Fig. 2a, b, c). No lymphadenopathies or osseous erosion were observed. CT also revealed a perihepatic solid, heterogeneous mass with peripheral and central gross calcifications and two hypodense intrahepatic lesions (Fig. 2d). These findings suggested metastatic disease, so we performed: brain MRI, testicular and neck ultrasound, mammography, colonoscopy, all normal. Tumour markers and rheumatologic antibodies were also normal.
The biopsy of perihepatic mass revealed a benign fibrous tumour. Due to the absence of malignancy, a lung biopsy was performed and showed a pulmonary hyalinizing granuloma (PHG), without signs of malignant degeneration. After 4 months, a follow-up CT was performance showing stability of all the findings.

Discussion:
PHG is a very rare fibrotic nodular disease whose aetiology remains unknown. It is related to an abnormal immune response and can be associated with extrapulmonary fibrotic conditions like sclerosing mediastinitis, retroperitoneal fibrosis or Riedel's thyroiditis [1, 2, 3]. Our case was associated with a perihepatic mass (the other 2 intrahepatic hypodense lesions have not yet been characterized).

Most patients are asymptomatic and the disease is usually diagnosed as an incidental finding trough an image test. However, some individuals may suffer non-specific symptoms like cough, fever, fatigue or dyspnoea [1, 2, 3]. Chest radiographs show multiple (70%) or solitary (30%) nodules with well-defined borders, diameter ranging from 0.2 to 15cm (mean 2cm), bilateral and randomly distributed. Calcification and cavitation are not common. Nodules often remain stable for long periods, but they can grow slowly. Lymphadenopathies are not observed in this entity [1, 2, 3].

When these findings are present you should rule out a malignant metastatic disease or a primary (lung or lymphoma) tumour. Other possibilities are infection (tuberculosis, septic emboli or fungal infections), sarcoidosis, amyloidosis, silicosis, rheumatoid nodules, Wegener's granulomatosis, lymphomatoid granulomatosis, and plasma
cell granuloma [1, 2, 3].
Final diagnosis is made by histopathological examination. Microscopically, a hypocellular network of concentric hyalinised collagen surrounded by a lymphocytic infiltrate is presented [1, 2, 3]. Macroscopically, whitish and well-defined nodules similar to a cotton-ball are characteristics [3].
This entity has a good prognosis. Nowadays, malignant degeneration has not been described. Treatment consists in resection and watchful waiting for solitary lesions or corticosteroid drugs in cases of multiple lesions [1, 2, 3].
In conclusion, PHG is a rare benign disease that can mimic a metastatic lung cancer. Biopsy is necessary for the diagnosis.

**Differential Diagnosis List:** Pulmonary hyalinizing granuloma, Malignant metastatic, Primary tumour, Infection (tuberculosis, septic emboli or fungal infections), Sarcoidosis, Amyloidosis, Silicosis, Rheumatoid nodules, Wegener's granulomatosis, Lymphomatoid granulomatosis, Plasma cell granuloma

**Final Diagnosis:** Pulmonary hyalinizing granuloma

**References:**


Description: Multiple well-defined nodules distributed throughout both lungs. Origin: HGU J.M. Morales Meseguer, Department of Radiology, Murcia, España
Description: Multiple well-defined nodules distributed throughout both lungs. Origin: HGU J.M. Morales Meseguer, Department of Radiology, Murcia, España
Figure 2

Description: Multiple and bilateral nodules

Origin: HGU J.M. Morales Meseguer, Department of Radiology, Murcia, España.
Description: The nodule in the lower left lobe (bigger) show microlobulated contours, while the one in the lingula (smaller) has smooth borders. Origin: HGU J.M. Morales Meseguer, Department of Radiology, Murcia, España.
Description: This upper right nodule was one of the biggest and its density was heterogeneous. No lymphadenopathy. Origin: HGU J.M. Morales Meseguer, Department of Radiology, Murcia, España.
Description: Heterogeneous mass with peripheral and central gross calcifications and one hypodense intrahepatic lesion located at III segment. Origin: HGU J.M. Morales Meseguer, Department of Radiology, Murcia, España.