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CASE REPORT

The solitary pulmonary nodule: not always bronchogenic carcinoma

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KEYWORDS

Lymphoma;
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Summary A solitary lung nodule (SLN) is seen in 1 in 500 chest radiographs. Benign causes include infectious granulomas and hamartomas, and less commonly, rheumatoid nodules, intrapulmonary lymph nodes and sarcoidosis. Bronchogenic carcinoma and solitary pulmonary metastases are found in 35% and 23% of SLN's respectively. Primary pulmonary non-Hodgkins lymphoma is a rare disease, constituting 0.4% of all lymphomas. We present a case of primary pulmonary non-Hodgkins lymphoma which presented as a SLN in an 87-year old lady with a smoking history of 50 pack years.

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Case report

An 87 year-old woman was referred to the pulmonary clinic following the incidental finding of a right lung nodule. She had a smoking history of 50 pack years. Her past medical history was significant for coronary artery disease and chronic obstructive pulmonary disease (COPD). The patient had no cough, hemoptysis, fever, night sweats, or weight loss. Physical examination revealed a temperature of 37.5 °C, blood pressure of 128/60 mmHg, heart rate of 88 beats/min, and oxygen saturation of 92% on room air.

There was no palpable lymphadenopathy in the cervical, supraclavicular, and axillary regions. Chest, cardiac, and abdominal examinations were unremarkable. Spirometry revealed a Forced Expiratory Volume in one second (FEV1) of 800 ml. A chest radiograph and a computed tomography (CT) scan of the chest showed a 2.3 cm spherical mass in the right lower lobe with no evidence of mediastinal lymphadenopathy (Figure 1). Bronchoscopy was performed since sputum cytology was non-diagnostic. Transthoracic CT-guided fine needle aspiration of the lesion was done. Cytology revealed low-grade B-cell lymphoma. Based on her co-morbidities and very low FEV1, she was a poor candidate for surgery, radiotherapy or chemotherapy. The decision was made to observe her without treatment. During 18

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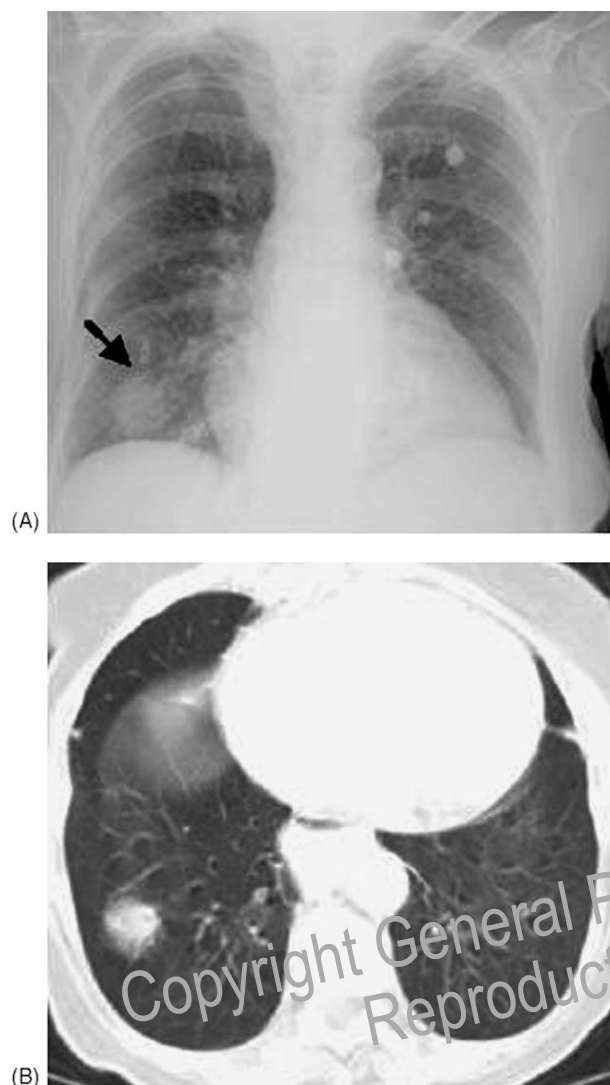


Figure 1 (A) Chest radiograph showing a right lower lobe mass (black arrow). (B) CT scan of the chest showing a 2.3cm spherical mass in the right lower lobe with ill-defined borders.

months of follow-up after presentation, the patient remained asymptomatic and repeat chest CT scan revealed no new lesions and only minimal growth of the mass.

Discussion

A solitary lung nodule (SLN) is an intraparenchymal round lesion that is less than 3 cm in diameter and is not associated with atelectasis and adenopathy. Lesions greater than 3 cm are defined as lung masses and are often malignant. A SLN is noted in 1 in 500 chest radiographs. Infectious granulomas (about 80%) and hamartomas (about 10%) are

the most common benign causes of SLN. Other benign etiologies for SLN are rheumatoid nodules, intrapulmonary lymph nodes, and sarcoidosis. SLN may also be malignant. Bronchogenic carcinoma and solitary pulmonary metastases may be found in 35% and 23% of SLNs, respectively [1,2].

Primary pulmonary non-Hodgkin's lymphoma is a rare disease and includes 0.4% of all lymphomas [3]. The definition of primary pulmonary lymphoma (PPL) includes involvement of lung parenchyma or bronchi with monoclonal lymphoid cells in the absence of extrapulmonary evidence of lymphoma at diagnosis and during the subsequent three months. There are three major forms of PPL that can present as a SLN (4):

1. Bronchial-associated lymphoid tissue (BALT) lymphoma
2. Low-grade B-cell PPL
3. High-grade B-cell PPL

BALT lymphoma is the most common form of PPL and accounts for about 80% of cases in pathological series'. BALT lymphoma is a low-grade B-cell lymphoma [4]. Chronic stimulation of bronchial mucosa-related lymphoid tissue as a result of infection, smoking, or autoimmune disease has been related to the development of BALT lymphoma. BALT lymphoma has an indolent course and remains limited to the lungs for long periods of time before becoming disseminated [5]. Fever, night sweats, cough and chest pain are uncommon. Anaemia and elevated levels of lactate dehydrogenase (LDH) are also uncommon. BALT lymphoma has a favorable prognosis. Treatment options are close observation, radiotherapy, surgery, and chemotherapy [4,5].

Low-grade B-cell lymphoma represents less than 10% of PPLs and is diagnosed when the lymphoma does not meet the histological criteria of BALT lymphoma. High-grade B-cell PPL accounts for about 10% of cases. This form of lymphoma occurs in patients after heart or lung transplantation or in patients with human immunodeficiency infection [5].

Although rare, PPL should be considered in the differential diagnosis of a SLN. Low-grade B-cell PPL has a favorable prognosis and in patients who are poor candidates for treatment, a strategy of "wait and see" is reasonable.

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