Radiology Forum

Pulmonary Hamartoma

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CLINICAL SUMMARY

A 37-year-old male presented for an opinion regarding his chest radiograph obtained routinely, as it was found to be abnormal. He was otherwise asymptomatic and had a history of tobacco smoking of 10 pack years. Physical examination was unremarkable.

INVESTIGATIONS

The haemogram, liver and renal function tests were within normal limits. Tuberculin skin test (5 tuberculin units) was negative. The chest radiograph (postero-anterior view) revealed a rounded opacity in the left mid-zone (Figure 1).

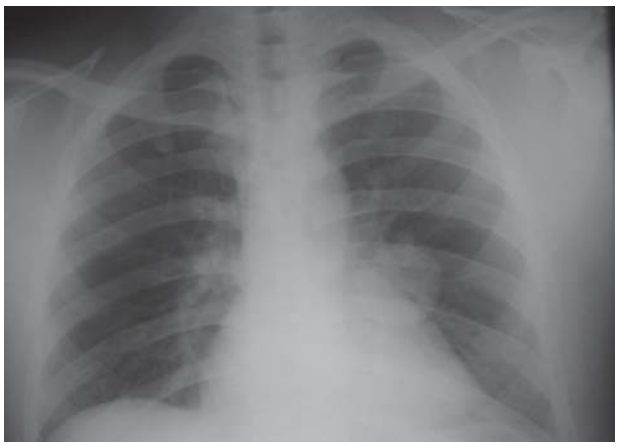

Figure 1. Chest radiograph (postero-anterior view) showing a left mid-zone rounded opacity.

Computerised tomography (CT) of the chest showed a well-defined, round, cystic density (+17 Hounsfield units), measuring 3.9cmx3.2cm in the left lung, lateral to descending aorta, adjacent to the left main bronchus (Figure 2). The lesion was subjected to fine needle aspiration cytology (FNAC) using 21G needle under CT guidance by trans-thoracic approach. The smears were air-dried and wet-fixed and stained with May-Grunwald Giemsa (MGG) and haematoxylin and eosin (H&E) stains, respectively. The smears showed benign spindle

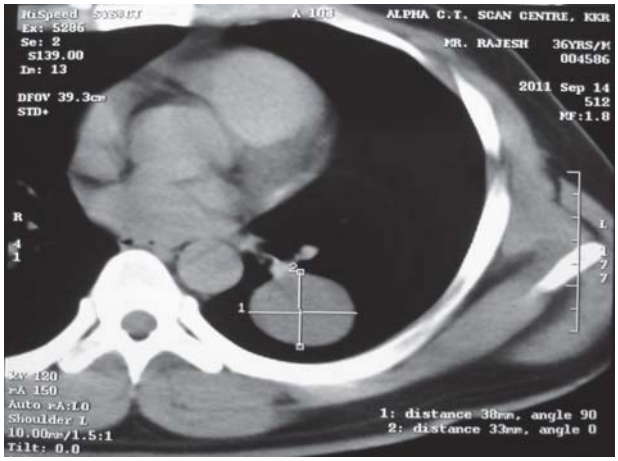

Figure 2. Computed tomography of the chest showing a well-defined mass, (density 17HU), measuring 3.9cmx3.2cm in the left lung, lateral to descending aorta adjacent to the left main bronchus.
HU=Hounsfield units

cells with bland nuclear chromatin embedded in abundant chondromyxoid material suggestive of chondroid hamartoma (Figure 3). The patient was followed-up for more than a year and no change was seen in the lesion (Figure 4).

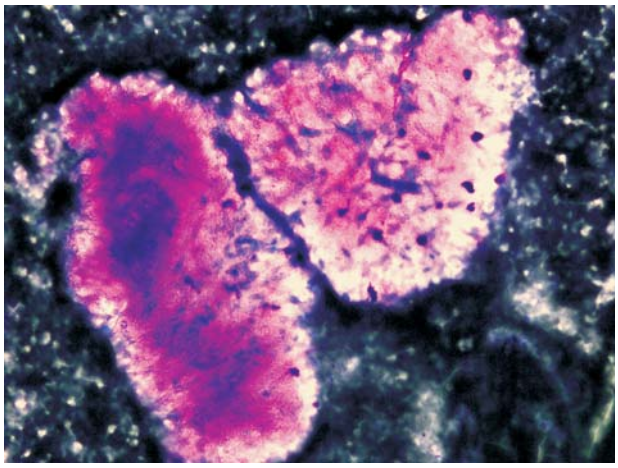

Figure 3. Photomicrograph showing bland spindle cells embedded in magenta chondromyxoid material (May-Grunwald Giemsax400).

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Figure 4. Chest radiograph (postero-anterior view) after more than one year showing no change in the left mid-zone rounded opacity.

DIAGNOSIS

Chondroid hamartoma

DISCUSSION

Pulmonary hamartomas are rare, benign tumour-like lesions of the lung. These usually occur as a well-circumscribed single nodule in the lung parenchyma.[1] Popcorn calcification may be seen, which is diagnostic, if present. Rarely, these can be multiple. These are more common in males, older individuals and tobacco smokers.[2] Pulmonary hamartomas are usually asymptomatic and are incidentally detected on the chest radiograph.[3] Central lesions can cause obstruction of the bronchus causing atelectasis and pneumonitis.[4,5]

The main diagnostic difficulty for the clinician as well as the radiologist is to differentiate between the benign and malignant nature of the lesion. If multiple, these also need to be differentiated from metastasis to the lung. Fine needle aspiration cytology of the lesions is usually diagnostic. In cases where benign nature of the lesion is confirmed by cytology, and the lesion is asymptomatic, no further treatment is required. Careful follow up of the patient by chest radiography is essential for monitoring for the change in size, or for the appearance of symptoms.

Surgical intervention is required only when the lesion is large, there is a rapid increase in the size of the lesion, or the patient is symptomatic. Enucleation or segmental resection or lobectomy are performed for peripheral lesions and bronchoscopic removal is done for endobronchial lesions.[2]

Malignant transformation in hamartomas is practically non-existent. Therefore, if the diagnosis is established on FNAC, the patient may be saved from unnecessary surgery and be followed-up. Although almost always benign, sarcomatous change has been described where the tumour was 12cm in size and had been present for 37 years.[6] Our patient was closely followed-up, and even after one year, there was no progression or change in the radiological shadow and he remained asymptomatic. So, surgery was not considered in our patient.

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