

Round atelectasis

Chandan Kakkar, Prakashini Koteshwara¹, Rajagopal Kadavigere¹

Department of Radiodiagnosis and Imaging, Dayanand Medical College and Hospital, Ludhiana, Punjab, ¹Department of Radiodiagnosis and Imaging, Kasturba Medical College and Hospital, Manipal, Karnataka, India

Address for correspondence: Dr. Chandan Kakkar, Department of Radiodiagnosis and Imaging, Dayanand Medical College and Hospital, Ludhiana, Punjab, India. E-mail: chandankakkar@yahoo.co.in

CASE SUMMARY

A 60-year-old male, a known smoker with a history of tuberculosis treated in the past, presented with right-sided chest pain. On clinical examination, the patient was found to be moderately built with decreased air entry in the right lung on auscultation. A radiograph of the chest revealed an ill-defined opacity in the right middle zone [Figure 1a]; hence, considering the patient's clinical details, contrast-enhanced computed tomography (CT) was done. Contrast-enhanced CT and high-resolution CT (HRCT) revealed marked pleural thickening and calcification in the region of the right middle lobe with an associated subpleural nodular mass in the right middle lobe suggestive of collapsed lung [Figure 1b]. The bronchovascular bundles were seen converging toward the nodular mass [Figure 1c], with multiple linear bands radiating from the mass in the adjacent lung [Figure 1d].

QUESTIONS

Q1: What is the diagnosis?

Q2: What are the signs associated with this condition?

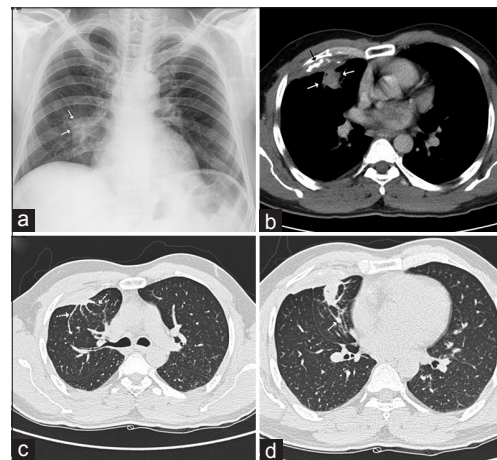


Figure 1: (a) Radiograph of the chest reveals an ill-defined opacity (arrows) in the right middle lobe. (b) Contrast-enhanced CT reveals pleural thickening with calcification (black arrow) with a subpleural nodular mass (arrows) with irregular margins. (c) Lung window shows bands entering the mass from all directions (dashed arrows) giving a “Crow’s feet” appearance. (d) Lung window shows bronchovascular bundles (arrow) converging towards the lesion giving a “comet tail appearance”

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DOI:

10.4103/0970-2113.168105

ANSWERS

Answer 1: Post tubercular round atelectasis.

Answer 2: Comet tail sign, Crow feet sign.

DISCUSSION

Round atelectasis is a form of chronic collapse of the lung that usually follows an old pleural injury in the form of effusion or pleuritis, which results in entrapment of the subpleural lung, thereby giving it a rounded appearance radiologically. The disease is known by several names such as “Blesovsky’s syndrome,” “folded lung syndrome,” “atelectatic pseudotumor,” and “shrinking pleuritis with atelectasis.” Round atelectasis has most often been reported in cases with a history of asbestos exposure. Other possible causes include past history of tuberculosis, pulmonary infarction, congestive cardiac failure, Dressler syndrome, uremic pleuritis, trauma, rarely malignancies, and sarcoidosis. The patients are usually asymptomatic and the lesion is most often detected incidentally on radiography.^[1,2]

Radiographically, round atelectasis is seen as a rounded or an oval opacity that is subpleural in location and is most often associated with adjacent pleural thickening. The lesion is usually solitary with a predilection for lower lobes; however, the upper and middle lobes and the lingular segments may also be occasionally involved. There may be presence of air bronchograms within the lesion and associated features of volume loss in the involved lobe. Pleural calcification may be an aid to the diagnosis of

this condition; however, in most instances the lesion may mimic primary lung cancer radiographically and mandate further imaging for correct diagnosis.^[3,4]

CT characteristically reveals a nodular mass lesion in the subpleural location with adjacent pleural thickening. The “comet tail sign” is a characteristic sign of this condition that is seen as bronchovascular bundles converging toward the nodular mass. Crowded and converging bronchovascular bundles are seen entering the mass from all sides, giving an appearance of “Crow’s feet.” After the contrast, the mass may show enhancement; however, this feature does not help to differentiate it from malignancy. The lesion does not require any treatment and usually remains stable; hence, interval radiography may be suggested to look for progression or regression of the lesion. Characteristic CT signs help in the diagnosis of the lesion; however, in equivocal cases fine-needle aspiration or biopsy may be done to rule out malignancy.^[1,4]

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How to cite this article: Kakkar C, Koteshwara P, Kadavigere R. Round atelectasis. *Lung India* 2015;32:646-7.

Source of Support: Nil, **Conflict of Interest:** None declared.