TUBERCULAR ROUND ATELECTASIS: A RARE CASE REPORT

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ABSTRACT

Rounded atelectasis of the lung was first described by Loeschke in 1928 in association with pleural effusion.[1]: Rounded atelectasis is an atelectasis of a peripheral part of the lung due to pleural adhesions and fibrosis causing deformation of the lung and bending of some small bronchi. The pleural surfaces then fuse to one another, trapping the underlying lung and leading to atelectasis. As a result of this alteration, a mass lesion that mimics lung cancer can be seen on the PA chest radiograph. This lesion is most easily appreciated to be a pseudotumour with use of CT scanning. HRCT can non-invasively demonstrate continuity to areas of diffuse pleural thickening, evidence of volume loss in the adjacent lung or a characteristic comet tail of vessels and bronchi sweeping into a wedge-shaped mass**.** Other names for this condition are Blesovsky's syndrome, Helical atelectasis, Folded lung, Pleuroma, Atelectatic pseudotumour, Shrinking pleuritis and Pulmonary pseudotumour. It has a yearly incidence of 5–15 cases/100,000 people. The most common cause of rounded atelectasis is occupational exposure to mineral dusts: asbestosis, pneumoconiosis, inhalation of mixed mineral dusts.[2]; however, any cause of pleural inflammation can cause round atelectasis. Rounded atelectasis is less common in pulmonary diseases directly affecting pleura such as in legionellosis, histoplasmosis and in patients with end-stage renal disease. Atelectasis may also occur in the course of sarcoidosis and in young adults without history of pulmonary disease.[3] In our case, it was tubercular in origin.

KEYWORDS

Round Atelectasis, Tuberculosis, Asbestosis.

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INTRODUCTION

Rounded atelectasis of the lung was first described by Loeschke in 1928 in association with pleural effusion.[1] Rounded atelectasis is atelectasis of a peripheral part of the lung, due to pleural adhesions and fibrosis that cause deformation of the lung and torsion of some small bronchi. Other names for this condition are Blesovsky's syndrome, Helical atelectasis, Folded lung, Pleuroma, Atelectatic pseudotumour, Shrinking pleuritis and pulmonary pseudotumour. It has a yearly incidence of 5–15 cases/100,000 people. The most common cause of rounded atelectasis is occupational exposure to mineral dusts: asbestosis, pneumoconiosis, inhalation of mixed mineral dusts.[2]; however, any cause of pleural inflammation can cause round atelectasis. Rounded atelectasis is less common in pulmonary diseases directly affecting pleura such as in legionellosis, histoplasmosis and in patients with end-stage renal disease. Atelectasis may also occur in the course of sarcoidosis and in young adults without history of pulmonary disease.[3] In our case, it was tubercular in origin.

CASE REPORT

A 48 years old female came with chief complaints of cough and right-sided chest pain since 3 weeks and fever since 2 weeks.

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Chest X-ray postero-anterior view showed homogeneous round opacity in right lower zone with blunting of right costophrenic angles (Fig. 1 and 2). A CT chest was done, which revealed a pleural-based opacity of 5 cm size with bronchovascular markings converging to it with pleural thickening (Fig. 3 and 4). A diagnosis of round atelectasis was made. CT guided biopsy of the mass was done, which showed granulomatous inflammation with caseous necrosis (Fig. 5). Hence, Tubercular aetiology was confirmed. Pt was treated with Anti-Tuberculosis therapy for 6 months and patient improved both clinically and radiologically. Fig. 6 and 7 shows post-treatment X-ray and CT respectively.

Fig. 1: Chest X-Ray PA View showing Rounded Inhomogeneous Opacity in Right Lower Zone Abutting Right Diaphragmatic Pleura

Fig. 2: Chest X-Ray Right Lateral View Localising Opacity to Right Lower Lobe

Fig. 3: CT Chest before Starting Treatment

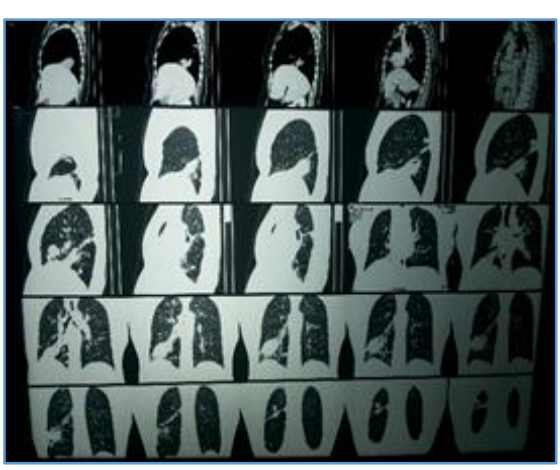

Fig. 4: CT Chest before Starting Treatment

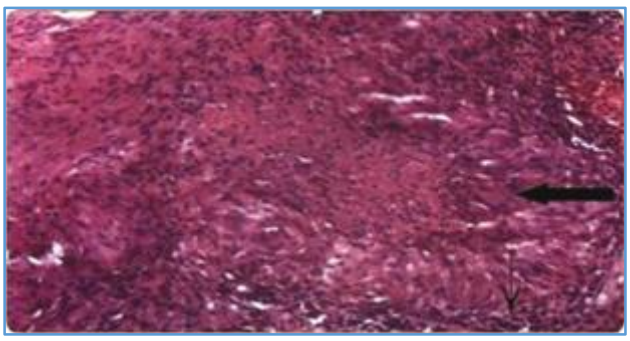

Fig. 5: HPE showing Granulomatous Lesion with Epithelioid and Langhans Type of Giant Cells

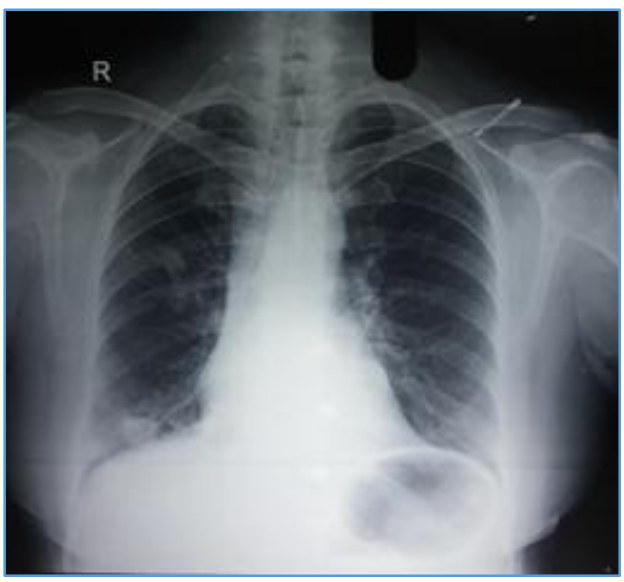

Fig. 6: Chest X-Ray PA View after Treatment

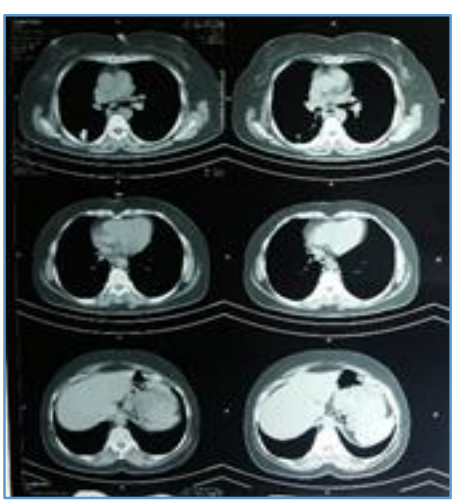

Fig. 7a

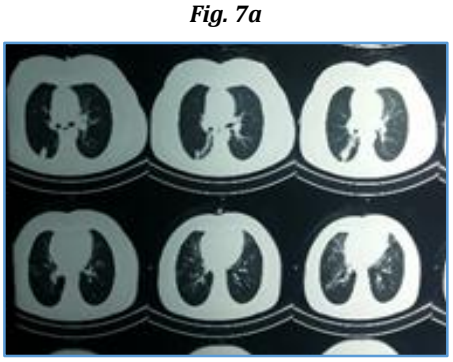

Fig. 7b

Fig. 1c

Fig. 7a, b, c: CT Chest after Treatment with Anti-Tuberculous Treatment

DISCUSSION

Round atelectasis is a form of peripheral atelectasis size of which varies from 2.5 to 8 cm in diameter on chest X-ray.[4] Doyle and Lawlers have proposed seven criteria for the diagnosis of RA.[5] The diagnosis is usually based on the presence of the classical radiological triad of round mass abutting the pleura, converging bronchovascular markings and pleural thickening adjacent to the mass.[6] In our case, all these findings were present in the CT.

CONCLUSION

Round atelectasis is a rare CT finding and often misdiagnosed as mass lesion. Bronchogenic carcinoma is a very close differential diagnosis. Proper examination of CT scan can easily differentiate mass lesion from round atelectasis. Asbestosis is the most common cause of round atelectasis, but patient should also be evaluated for other less common cause like Tuberculosis, especially in our country where prevalence of Tuberculosis is high.

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