

Pleural effusion resembling a lung tumor: phantom tumor of the lung

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78-years- old female known case of Congestive Heart failure, with ejection fraction of 55% on recent echocardiograph, presented with complains of Shortness of breath, Cough and sputum without fever. She had stopped taking medications recently and examination showed patient in fluid overload. Conventional postero-anterior Chest radiograph revealed a mass like opacity in lower zone of the right lung while Lateral view radiograph showed cigar shaped opacity due to pleural effusion in oblique fissure of the right lung. Patient was given diuretics on the basis of clinical and radiographic findings and the rounded opacity disappeared on repeat radiograph. Thus the diagnosis of Phantom tumor of lung was made. It is therefore suggested to get a lateral chest radiograph and give a trial of diuretics in such cases before going for other investigations or surgical procedures.

Keywords:

congestive heart failure, diuretics, phantom tumor, pleural effusion

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Introduction

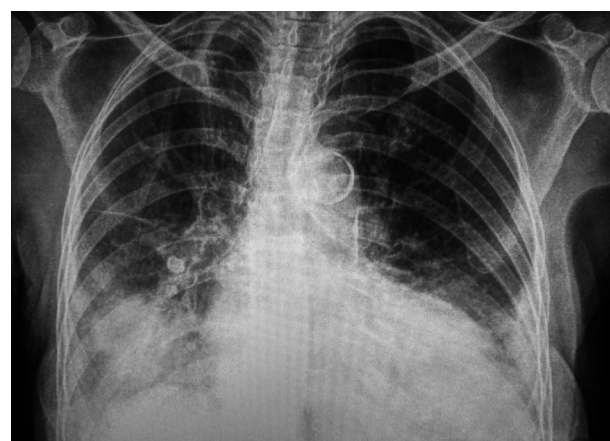
Phantom tumor of the lung (also called pseudo tumor of the lung) is a mass-like appearance of interlobar pleural fluid collection in congestive heart failure [1]. The words phantom or pseudo are coined for this unusual finding because it resembles a tumor on radiograph and vanishes after initiating diuretic therapy [2].

Case report

A 78-year-old woman, a known case of acid peptic disease, diabetes mellitus, hypertension, and congestive heart failure presented with increasing shortness of breath and cough with sputum for 8–10 days. Her blood pressure on arrival was 160/95 mmHg, pulse was 96 bpm, respiratory rate was 20/min, oxygen saturation was 94%, and temperature was 99.3°F. Physical examination showed increased jugular venous pulse and pressure, mild-to-moderate pedal edema, S3/S4 gallop rhythm, and bilateral basal crepts with equal air entry on chest auscultation. Her medications included metformin 500 mg once daily, bisoprolol (Concor) 2.5 mg once daily, lisinopril (Zestril) 20 mg once daily, amlodipine (Norvasc) 5 mg once daily, and omeprazole (Risek) 40 mg once daily. She had recently stopped taking her medications, leading to arousal of her symptoms.

Her ECG findings were unremarkable. However, a posteroanterior chest radiograph showed an enlarged heart shadow, calcified aortic arch, slightly thickened horizontal fissure, bilateral blunting of costophrenic angles, and a rounded 4×5 cm (tumor-like) opacity in

Figure 1



Chest radiograph posteroanterior view showing rounded 4×5 cm opacity in the base of the right lung.

the lower zone of the right lung (Fig. 1). Lateral view chest radiograph showed a cigar-shaped opacity in the area of oblique fissure of the right lung (Fig. 2), excluding pneumonia and tumor while including pleural effusion in the oblique fissure as the explanation to this unusual finding.

Echocardiography, 3 months before this episode, showed mild-to-moderate concentric hypertrophy of the left ventricle with diastolic dysfunction and ejection fraction of around 55–60%.

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Figure 2

Chest radiograph lateral view showing cigar-shaped fluid in the oblique fissure of the lung.

In light of the above findings, we started this patient on diuretic therapy. A week later, on repeat chest radiograph, the pleural effusion had almost completely vanished. As it looked like a mass on radiograph but vanished after induction of diuretic therapy, phantom or pseudo tumor of the lung was diagnosed.

Discussion

Phantom/pseudo tumor of the lung is a very uncommon radiographic finding. Congestive heart failure patients, with a past history of recurrent or long-standing pulmonary infections leading to pleuritis [3] and pleural fibrosis, are prone to developing such configuration of pleural fluid collection in acute exacerbations. It is also plausible that patients with a history of recurrent exacerbations [4] leading to pleural effusion formation and stretching of pleura develop such tumor-like fluid collection. Phantom tumor effusion is usually found in the

horizontal fissure, less frequently within the oblique fissure [5], as in this case, and very rarely multiple collections in both fissures can be seen.

Lateral view chest radiograph usually assists in diagnosing this condition. However, it is not uncommon to obtain a computed tomography scan for such unusual findings on chest radiograph, exposing patients to unnecessary radiations and, in some cases, unnecessary biopsy/surgery.

Conclusion

We suggest that phantom tumor be always kept in mind during differential diagnosis of mass-like findings on chest radiograph in patients with congestive heart failure, if there has been an increase in symptoms and signs of congestive heart failure. In addition, treatment with diuretics should be provided before going for any other expensive and unnecessary investigations or procedures.

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Conflicts of interest

There are no conflicts of interest.

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