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Visual Diagnosis

# Phantom tumor of the lung in heart failure patient

Onur Argan, MD [a, *], Dilek Ural, MD Prof [b]

[a] Kocaeli State Hospital, Department of Cardiology, Kocaeli 41300, Turkey
[b] Kocaeli University Medical Faculty, Department of Cardiology, Kocaeli 41000, Turkey

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ABSTRACT

In heart failure localized interlober pleural effusion is rare but well-known finding. But there is not enough case reports in the literature. This radiological finding seems like a mass and undergoes resolution quickly, It is also known as vanishing tumor, pseudotumor or phantom tumor. It is difficult to estimate the incidence due to the small number of reported cases. Determination of the mass appearance in chest X-ray should be reminded the phantom tumor especially in heart failure patient. This diagnosis would prevent unnecessary expensive diagnostic procedures, wrong diagnosis and treatment.



## 1. Tumor appearance in the chest X-ray of the patient with shortness of breath: what is your diagnosis?

71-year-old male patient complaining dyspnea, orthopnea and paroxysmal nocturnal dyspnea was admitted to emergency room. He had a shortness of breath increased for the last month. The patient who had undergone a bypass surgery 5 years ago was using ASA, ramipril, furosemide, spironolactone. The blood pressure was 110/70 mmHg and the heart rate was 85 beats/min. In the physical examination crepitant crackles presented on basal parts of the lungs. Laboratory tests showed no abnormal findings. Enlargement in the left heart chamber, systolic dysfunction, ejection fraction 30–35%, mild mitral and aortic regurgitation, moderate tricuspid regurgitation and moderate pulmonary artery pressure (40 mml/Hg) were detected in echocardiography. In the right inferior pulmonary lobes large, oval homogeneous 5 × 4 cm demarcated opacity were observed in the chest Xray (Fig. 1). The patient was introduced IV loop diuretic therapy. 24 h later, A significant decrease in the opacity on the chest radiography was seen (Fig. 2a). The opacity was observed to have disappeared completely after 2 days diuretics therapy (Fig. 2b).

## 2. Diagnosis: phantom tumor in heart failure patient

In heart failure localized interlober pleural effusion is rare but well-known finding[1]. Because this radiological finding seems like a mass and undergoes resolution quickly, It is also known as

**Fig. 1.**

* Corresponding author.
*E-mail address:* onur_argan@yahoo.com (O. Argan).
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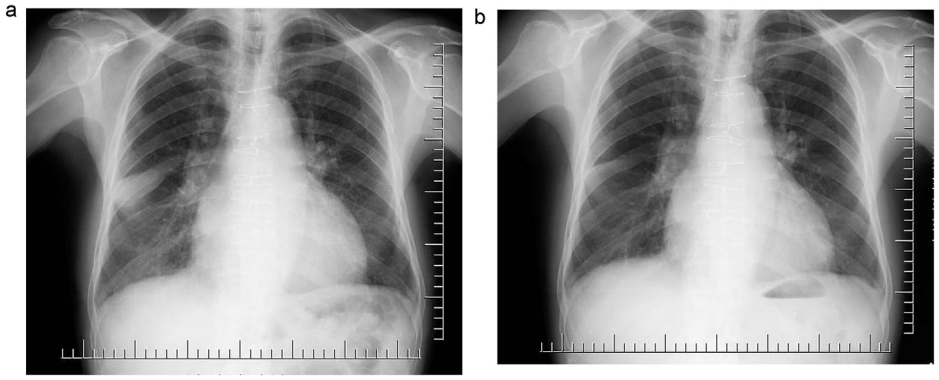


**Fig. 2.**

vanishing tumor, pseudotumor or phantom tumor.[2] It is difficult to estimate the incidence due to the small number of reported cases. Phantom tumor can be frequently observed on right side of the chest in males.[3,4] It is seen mostly in transverse fissure, less frequently in oblique fissure and rarely in both.[2,3]

Adhesions caused by previous pleuritis in the pleural space may take a role in the pathogenesis. When transidative fluid infiltrating from pulmonary bed to pleural cavity reaches the capability of lympathic resorption, it starts to accumulate and form the phantom like tumor.[5] Transudative fluid accumulation in the left heart failure, renal failure, hypoalbuminemia can also be monitored. Exudative fluid accumulation is seen in pneumonia, tuberculosis, malignancies and asbestosis. In addition to these, hemotorax, silotorax, interlobar fissure as well as pleural fibrous tumors can be seen. Phantom tumor can relapse in recurrent decompensation in patients with heart failure. Radiological improvement can be observed in less than 24 h after introducing diuretic infusion treatment.

In patients, especially those with heart failure or pleural effusion in their chest X-ray, determination of the mass appearance in chest X-ray should be reminded the phantom tumor. This diagnosis would prevent unnecessary expensive diagnostic procedures, wrong diagnosis and treatment.

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## Conflict of interest

None Declared.

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