

IMAGES IN EMERGENCY MEDICINE

Cardiovascular

Man with right atrial mass

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A 58-year-old man with chronic smoking history presented to the emergency department with a 4-day history of exertional dyspnea. His pulse oximetry was 97% on room air, heart rate 102 bpm and blood pressure 155/109 mmHg. Physical examination on cardiorespiratory system was unremarkable except the neck veins were distended. Electrocardiogram (ECG) showed small complexes and bedside ultrasound found a pericardial effusion with a right atrial mass (Figure 1). Computed tomography of the thorax revealed a right paratracheal tumor infiltrating the superior vena cava (SVC) and occupying the right atrium (Figure 2).

1 | DIAGNOSIS

Superior vena cava obstruction (SVCO) secondary to tumor infiltration.

2 | DISCUSSION

Differentials of right atrial mass include atrial myxomas, sarcomas, thrombus, lipomas, lymphomas, and metastases.¹ Metastases usually arise from lung cancer, breast cancer, melanoma, thymoma, malignant germ cell tumor, lymphoma, and melanoma.¹

In this instance, it was a paratracheal tumor causing SVCO. The tumor infiltrated the SVC and occupied most of the right atrium. SVC syndrome is usually caused by tumor or thrombosis compressing or occluding the SVC. Lung cancer is the most common etiology.^{2,3} Common symptoms include dyspnea, cough, and swelling of the upper limbs and face.² Immediate management of SVCO in the emergency department (ED) includes elevation of the head and consideration of steroids to reduce tumor-associated edema.^{2,3} Definitive treatment is dependent on the underlying cause of the SVCO.

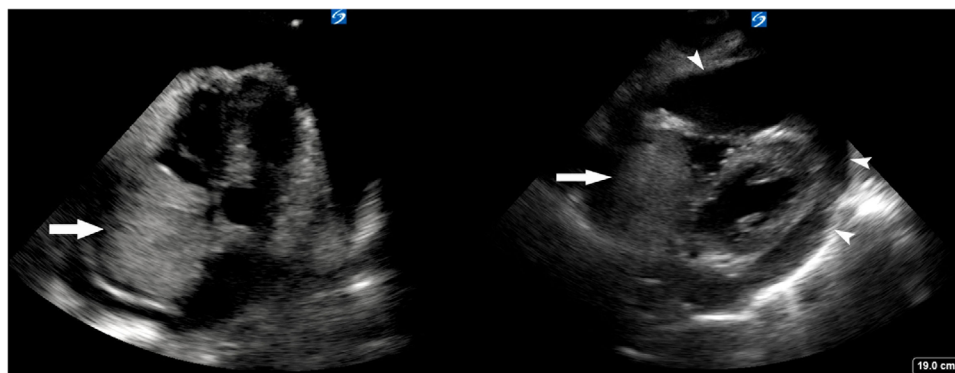


FIGURE 1 Apical -chamber (left panel) and parasternal long axis (right panel) views of the heart using point-of-care ultrasound showing a right atrial mass (arrow) with pericardial effusion (arrowheads)

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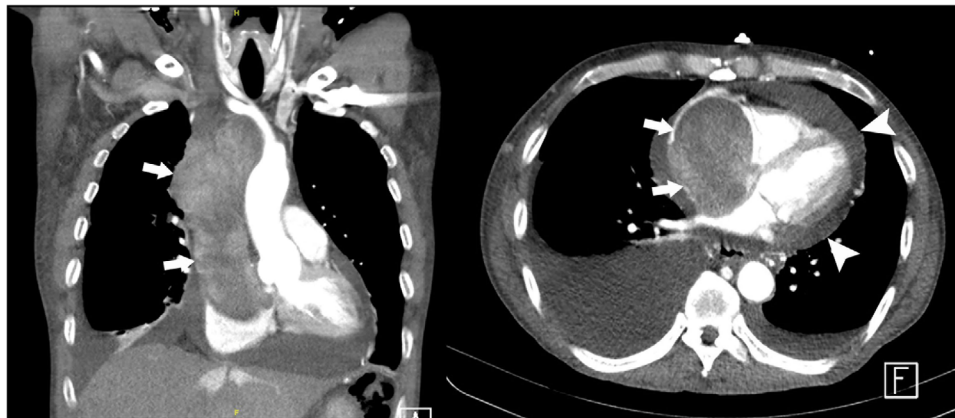


FIGURE 2 Coronal (left panel) and axial (right panel) contrast-enhanced computed tomography scan of the thorax showing the right atrial mass (arrows) with invasion into the superior vena cava. Pericardial effusion is seen (arrowheads)

The patient underwent an endobronchial biopsy and was subsequently diagnosed with a poorly differentiated non-small-cell lung carcinoma arising from the right upper lobe.

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