IMAGES IN EMERGENCY MEDICINE

Cardiology

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A cancer patient with dyspnea and facial swelling

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CASE PRESENTATION 1

A 52-year-old man with metastatic small cell lung cancer presented to the emergency department with complaints of orthopnea over the past 1 week, accompanied by swelling of the face and upper limbs. The initial vital signs recorded were pulse rate of 114 beats/min, blood pressure of 124/86 mmHg, and respiratory rate of 34 breaths/minute. Physical examination revealed unremarkable auscultation but with a palpable firm mass on the right side of his neck. Point-of-care ultrasound (POCUS) was performed to search for the cause of his difficulty breathing and to locate vessels for vascular access (Figure 1 and Video), and the diagnosis was confirmed using computed tomography (CT) (Figure 2).

2 DIAGNOSIS

2.1 Superior vena cava syndrome

The majority of cases of superior vena cava syndrome are associated with malignant disease, particularly bronchogenic carcinoma.¹ Patients presenting with life-threatening symptoms such as airway obstruction or intracranial swelling could be an emergency.² The diagnosis of superior vena cava syndrome is built on clinical suspicion that needs to be confirmed with a CT scan or magnetic resonance imaging.³ The POCUS could also be used for initial screening,⁴ especially for those who develop respiratory distress or unstable hemodynamic status, because sudden arrest may occur while the patient is transported

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FIGURE 1 Ultrasonographic images in the transverse plane were located on the right side of the neck. A, The internal jugular vein (IJV, white arrows) was invaded by a heterogeneous echogenic mass. B. Superior to the mass, a turbid flow in the right IJV (white arrows) with a decreased color duplex signal was observed; however, the vessel wall and blood flow in the right common carotid artery (yellow arrow) appeared normal

to image examination. Also, POCUS helps the emergency physician to resuscitate patients more effectively and safely, such as by guiding central venous catherization and confirming the location of the endotracheal tube. In this case, the patient was intubated because of worsening laryngeal edema, but he expired 1 week after being transferred to the intensive care unit.







FIGURE 2 Coronal computed tomography (CT) images showing pericardial effusion (star) and a large lung mass surrounding the superior vena cava and invading the brachiocephalic artery and right internal jugular vein

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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