

Persistent Left Superior Vena Cava: Incidental Discovery in Adult

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Abstract

A middle age Caucasian gentleman presented to the Emergency Department with fever, chills and hypotension. Chest X-ray revealed consolidation in right lower lobe consistent with pneumonia.

A chest radiograph after central line placement revealed a venous anomaly. CT scan with contrast revealed persistent left superior vena cava and absent right superior vena cava.

Key words: Left superior vena cava, anomalous venous drainage

Case Presentation

A 35 year-old Caucasian gentleman presented to the Emergency Department (ED) with a 2 day history of fever, chills, and cough with productive sputum. In the ED, the patient was found to be hypotensive with a systolic blood pressure of 75 mmHg and diastolic blood pressure of 40 mmHg. He was tachycardic with heart rate of 125/minute, and tachypneic with respiratory rate of 28/minute. A chest X-ray revealed dense consolidation of right lower lobe consistent with pneumonia. The patient's condition deteriorated requiring assisted mechanical ventilation. After aggressive volume resuscitation the patient was started on vasopressors. A central venous line was placed via right subclavian approach. A chest radiograph after the line placement revealed that the central venous line was going from right subclavian to the left side (**Figure 1**). A computed tomography (CT) scan of chest with intravenous contrast revealed

an absent right superior vena cava, and a persistent left superior vena cava draining in coronary sinus (**Figures 2 and 3**). The patient then underwent central venous line placement by left subclavian route going into left superior vena cava (**Figure 4**).

Discussion

A persistent left superior vena cava is an uncommon abnormality of the superior vena cava system. It only affects 0.4% of the general population [1]. The combination of persistence of left superior vena cava in the absence of right superior vena cava is even more unusual accounting for 0.07% to 0.13% of the general population [2]. In most cases the anomalies are found as an incidental discovery during central venous line placement, permanent pace maker placement, during echocardiography or CT of chest with contrast.

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Figure 1. RIGHT SUBCLAVIAN LINE GOING TOWARDS LEFT SUBCLAVIAN VEIN AND CURLING BACK



Figure 2. CONTRAST CHEST CT DEPICTING UNUSUAL LEFT SUPERIOR VENA CAVA



Figure 3. CHEST CT DEMONSTRATES CONTRAST IN LEFT SUPERIOR VENA CAVA

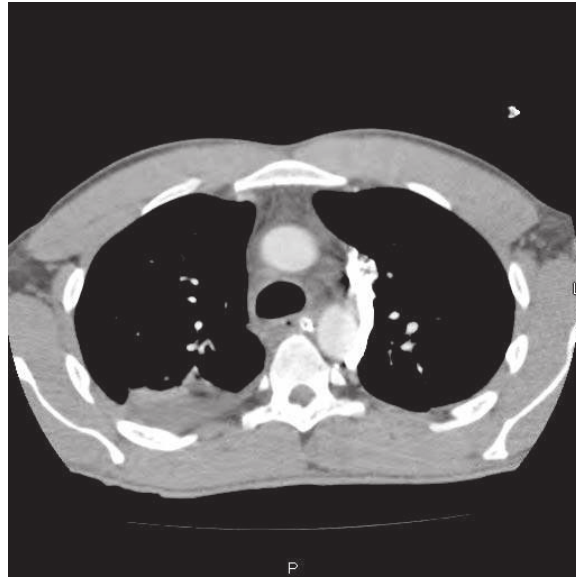


Figure 4. LEFT SUBCLAVIAN CENTRAL LINE GOING IN LEFT SUPERIOR VENA CAVA, AND ALSO SHOWING RIGHT LOWER LOBE CONSOLIDATION

