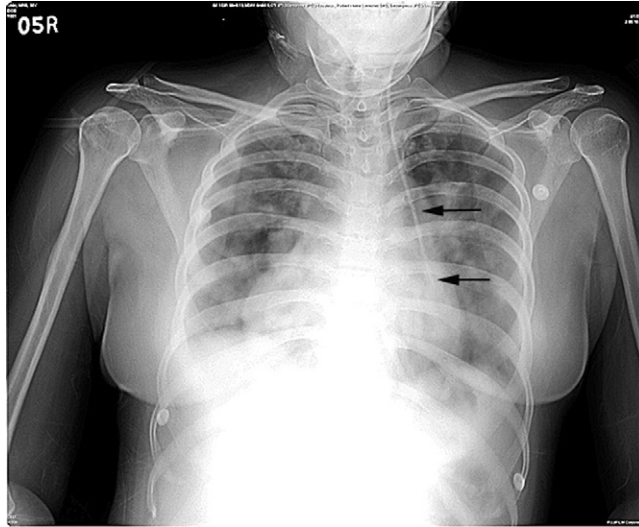


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0196-0644/\$-see front matter

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doi:10.1016/j.annemergmed.2011.05.021



**Figure.** Central venous catheter in left paramedian position. Used with permission of Ashok Elangovan, MD, EDIC, Department of Critical Care Medicine, Manipal Hospital, Bangalore, India.

[Ann Emerg Med. 2012;59:98.]

A 30-year-old woman was referred to the emergency department (ED) after presumably having had an anaphylactic reaction to cotrimoxazole tablets. In the ED, she was conscious, oriented, tachypneic, tachycardic, and hypotensive (systolic blood pressure of 60 mm Hg). She was fluid resuscitated; a central venous catheter was placed in the left internal jugular vein uneventfully, and an epinephrine infusion was started. A chest radiograph was obtained after line placement (Figure).

*For the diagnosis and teaching points, see page 114.  
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## IMAGES IN EMERGENCY MEDICINE

*(continued from p. 98)*

### DIAGNOSIS:

*Persistent left superior vena cava.* The chest radiograph showed the catheter lying parallel to the left side of the heart border. The catheter was connected to a pressure transducer and a central venous pressure trace was confirmed. Transthoracic echocardiography revealed the presence of a large coronary sinus. Saline contrast injection through the central venous catheter revealed echoes in the coronary sinus and then the right atrium, confirming the presence of a left superior vena cava draining into the coronary sinus. The catheter was used uneventfully in the patient until her discharge 4 days later.

A persistent left superior vena cava is present in 0.3% to 0.5% of the general population and 1.5% to 10% of individuals with congenital heart disease.<sup>1</sup> It results from failure of the embryologic left anterior and common cardinal veins to regress. It is usually asymptomatic, and its presence warrants a search for associated cardiac anomalies (nearly 40% of patients with persistent left superior vena cava may have cardiac anomalies).<sup>2</sup> It may lead to confusion during placement of transvenous pacing leads from the left side. An “aberrantly” positioned catheter and saline contrast echocardiography usually confirm the diagnosis.<sup>3</sup>

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