An unusual complication of central line insertion: the left superior vena cava

A Vascath dialysis line was inserted under direct ultrasound guidance into the left internal jugular vein for plasmapharesis to treat a 60-year-old woman admitted with a myasthenic crisis secondary to sepsis. A chest X-ray was arranged to check the position of the line and look for any complications, which revealed the presence of a left superior vena cava. Because of the uncertainty of the drainage of this vein a right-sided catheter was then inserted. The repeat chest X-ray (*Figure 1*) shows both lines, and the two vena cava.

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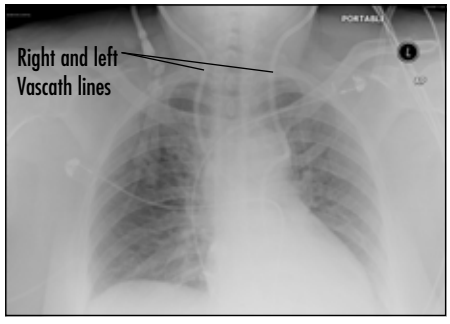
The incidence of a persistent left superior vena cava (also called double superior vena cava) is approximately 0.3%. The variation in isolation is considered benign, but it is frequently associated with other cardiac abnormalities, e.g. ventricular septal and atrioventricular defects (Berg et al, 2006). In 90% of cases the left superior vena cava drains into the right auricle via an intermediary of a dilated coronary sinus (Perloff, 1994), and hence is unlikely to be suitable for the large flow rates required for plasmapharesis (100–150 ml/min).

Figure 1. Chest X-ray showing the right and left Vascath central lines.



Complications of central line insertion as a result of abnormal circulation are rare, not routinely documented, and would not have been identified without using the chest X-ray to check the line's position. **BJHM**

Berg C, Knuppel M, Geipel A et al (2006) Prenatal diagnosis of persistent left superior vena cava and its associated congenital abnormalities. *Ultrasound Obstet Gynecol* **27**(3): 274–80

Perloff JK (1994) Congenital anomalies of vena caval connection. In: *The Clinical Recognition of Congenital Heart Disease.* 4th edn. WB Saunders Company, Philadelphia: 703–14