Permanent catheter implantation via a persistent left superior vena cava

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A variety of complications can occur at the time of catheter positioning, such as inappropriate placement [1]. Here we report a case of tunnelled catheters for haemodialysis inserted into bilateral superior vena cava.

Case

A 48-year-old male with a history of benign nephrosclerosis and chronic haemodialysis for the last 6 years was admitted to our hospital. He was diagnosed with left radial arteriovenous fistula thrombosis. The right internal jugular vein (RIJV) was thrombosed (history of RIJV catheter) as confirmed by Doppler echography. A Dual-Cath (Medcomp) was inserted in the left jugular vein without complication. The radiograph after placement of the catheters showed that one lane was located in the right atrium and the second in the left side of the heart (Figure 1). Haemodialysis sessions were performed with a blood flow rate of 300 ml/min, and the arterial and venous pressures were 200 and 166 mmHg, respectively. There was no access recirculation. An arteriovenous fistula was created at the left forearm and the catheters were removed 2 months later. Subsequently, venography showed persistent left superior vena cava (PLSVC) drainage in the right
atrium (Figure 2). Chest CT disclosed the bilateral superior vena cava (Figure 3).

Comment

A PLSVC is the most common thoracic venous anomaly, and it has been diagnosed in 0.3–0.5% of healthy individuals and 3–10% of patients with congenital heart disease. It is due to failure of involution of the cardinal vein during fetal life. PLSVC causes no haemodynamic disturbance unless associated with a congenital cardiac anomaly [2]. If such an anomaly is encountered and the PLSVC drains to the right atrium, successful haemodialysis can safely be performed [3].

References