

A rare case report of unusual path of left internal jugular central line

Sir,

Central venous cannulation is the most common procedure performed in perioperative settings and intensive care units. Many authors have reported unusual positioning of central line catheters.^[1] Here, we would like to report a case of central line path in persistent left superior vena cava (PLSVC), a rare entity with a course similar to right internal jugular vein (IJV). Pre-operative computed tomography (CT) chest showed duplex superior vena cava (SVC), which was not reported. A written consent was obtained from patient.

A 45-year-old male patient without comorbidities and with a history of necrotising pancreatitis was posted for exploratory laparotomy. The patient had CT chest and abdomen done preoperatively, with reports mostly concentrated on the abdomen. The left IJV

cannulation was done using ultrasound in the first attempt with ease after induction. A chest X-ray done postoperatively revealed an unusual course [Figure 1], just like the straight course as on the right side. All ports had free venous blood, confirmed by blood gas analysis. Later, we consulted a radiologist who reported double SVC which was not reported in the previous CT-chest.

The line was changed to right IJV to measure central venous pressure as it was unreliable to measure on the left side on day 3, which was uneventful. Post-operative echocardiography done was normal.

Central line malposition is the most common complication.^[1] Left-sided SVC is seen in 0.3%–0.5% of the normal population and in 5% of those with congenital heart diseases. PLSVC is the most common congenital malformation of thoracic venous return.^[2] Majority of the patients are asymptomatic, and the presence of vessel is identified incidentally during central line placement or by CT chest.

PLSVC forms during normal foetal development due to failure of obliteration of the anterior cardiac vein.^[3] The PLSVC passes anterior to the left hilum and lateral

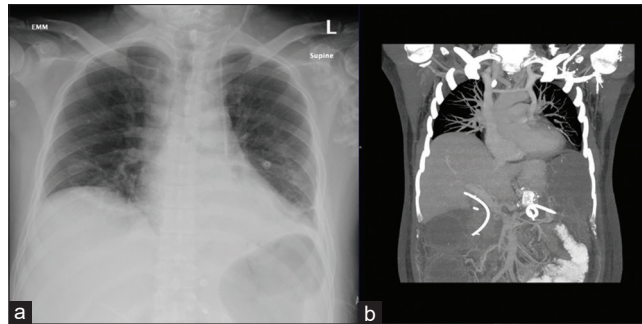


Figure 1: (a) Chest X-ray showing unusual path of the left internal jugular central line. (b) CT chest showing Duplex superior venacava

to the aortic arch. Most commonly, this vein drains into the coronary sinus (82%–90%) and left atrium (8%).

As far as central access is concerned, it is safe to use for drug administration but not for central venous pressure measurement. Other complications resulting from the existence of PLSVC include difficulty in pulmonary artery catheterisation, cerebral abscess, arrhythmia and embolic events.^[4] It is also worth mentioning that the incidence of defects in foetuses is higher than that in the general population. The spontaneous miscarriage caused by anatomical anomalies, as well as PLSVC along with other heart defects, causes premature deaths in foetuses.^[5]

The differential diagnosis of PLSVC includes left superior intercostal vein and left paracardiophrenic vein. It is of importance to us to identify such unusual paths and other congenital cardiac abnormalities such as tetralogy of Fallot, anomalous pulmonary vein and coarctation of aorta.^[2] PLSVC is very often discovered accidentally during invasive cardiac procedures, mostly during routine left-sided or right-heart catheterisation and surgical procedures.^[5] Malpositioning of the central line such as kinking inside the IJV and migration to the subclavian vein and external jugular vein has been reported.^[2,6] Central line access via the left IJV results in more unusual positions than through the right IJV, the incidence of which is <1% to above 60%.^[7]

We should always rule out congenital cardiac anomalies in such patients by trans-oesophageal echocardiography or by cardiac magnetic resonance imaging. There are many cases where central line

has taken unusual positioning in both left and right internal jugular cannulation, but PLSVC is a concern in view of the altered haemodynamics in small percentage of patients with cardiac anomalies, which need to be addressed appropriately in the perioperative period.

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Conflicts of interest

There are no conflicts of interest.

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