#IVTEAM #Intravenous literature: “Despite proper technique CVCs can terminate in what appears to be undesired locations. Complication rates range from 15-33%. The left side is more circuitous, an increased transverse lie exists, and more tributaries are present. In this case, the catheter was placed in a tributary of the left brachiocephalic.” Oh and Schaffrinna (2014).

Reference:

Oh, A. and Schaffrinna, A. (2014) Central venous catheter appears to enter the aorta...clinically correlate: a case of left brachiocephalic tributary vein cannulation. Chest. 145(3 Suppl), p.60A.

Abstract:

SESSION TITLE: Cardiovascular Case Report Posters.

SESSION TYPE: Case Report Poster.

PRESENTED ON: Sunday, March 23, 2014 at 01:15 PM – 02:15 PM

INTRODUCTION: Central venous catheters (CVC) are placed in large caliber veins, and though relatively safe, complications can occur. When chest radiograph cannot verify proper CVC placement, further assessments are mandated. We present a case of questionable placement
of a left-sided CVC.

CASE PRESENTATION: 58 y/o female presented with diarrhea and severe hypokalemia. An ultrasound-guided LIJ was placed and radiograph revealed the catheter tip bordering the left margin of the aortic knob and toward the spine. Analysis revealed venous blood. Saline flushing caused left sided back pain.

DISCUSSION: Despite proper technique CVCs can terminate in what appears to be undesired locations. Complication rates range from 15-33%. The left side is more circuitous, an increased transverse lie exists, and more tributaries are present. In this case, the catheter was placed in a tributary of the left brachiocephalic: internal thoracic, pericardiophrenic, or the least common of the three, superior intercostal veins. AP radiographs show the internal thoracic to be most medial of the three, the pericardiophrenic traveling along the left cardiac border, and the superior intercostal descending along the left mediastinum, arching along the aortic knob and revealing an “aortic nipple.” In lateral radiographs, the internal thoracic vein will lie in the anterior mediastinum, the pericardiophrenic vein medially, and the superior intercostal vein in the posterior mediastinum, toward the vertebral bodies. Tributary cannulations result in thoracic pain during rapid flush. A non-dilated left-sided tributary veins are usually too narrow for CVC cannulation, however congenital or acquired causes of enlargements can provide dilation and cannulation at greater than 4.5mm. Given the radiographic findings and clinical indicators described above, the superior intercostal vein is most likely the site.

DISCLOSURE: The following authors have nothing to disclose: Andrew Oh, Andrew Schaffrinna
No Product/Research Disclosure Information.

CONCLUSIONS: This study demonstrates successful dissemination and implementation of a
CVC SBML curriculum and shows that rigorous medical education is a powerful quality
improvement tool.

Other intravenous and vascular access resources that may be of interest (External links –
IVTEAM has no responsibility for content).

Guide for intravenous chemotherapy and associated vascular access devices from Macmillan.
CancerUK IV chemotherapy information.