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Double Superior Vena Cava: Malformation to Take into Account During Superior Vena Cava Access Procedure

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Keywords

Double Superior Vena Cava, Congenital Malformation, Vascular Anomaly, Superior Vena Cava Access, Central Venous Access, Cardiovascular Surgery, Anatomic Variation.

Clinical Case

We received a 42-year-old woman with a BMI of 21.3 on contraceptives and anti-retroviral treatment against HIV for 15 years and viral hepatitis B for 8 years. She had no history of known and monitored heart disease. A diagnosis of carcinoma of the right breast was made. She was referred to us for placement of an implantable catheter port for neoadjuvant chemotherapy. From then, the left side insertion was indicated.

After positioning the patient in supine on the operating table without scapular block and 2-stage skin preparation with povidone-iodine and alcohol, the approach to the subclavian vein was carried out by ultrasound guidance (Sonosite S-ICU®, linear probe L38, USA). Visualization of target vascular structures was clear. The venous puncture was unique with normal venous blood reflux. Climbing the metal guide was easy. For the lower position of the guide, we did not use the image intensifier based on the occurrence of atrial extrasystole on electrocardiographic monitoring. Insertion of the catheter (BARD®, 8F…Salt Lake City) was also easy cut 22 cm from the port implanted a fingerbreadth below the left clavicle. Finally, the control chest x-ray shows a position of the catheter tip 1.5 vertebrae below the carina on the left on the same side as the insertion point (Figure 1). The same chest x-ray also shows a catheter on the left not crossing the midline. This atypical position prompted an injected contrast medium CT to conclude that there was a left superior vena cava (Figure 2).

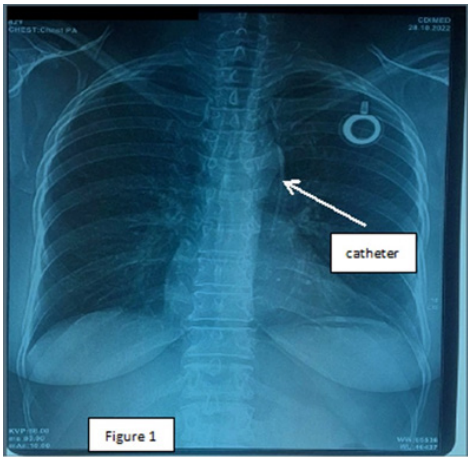

Figure 1: Chest x-ray with in catheter on left side of median line.

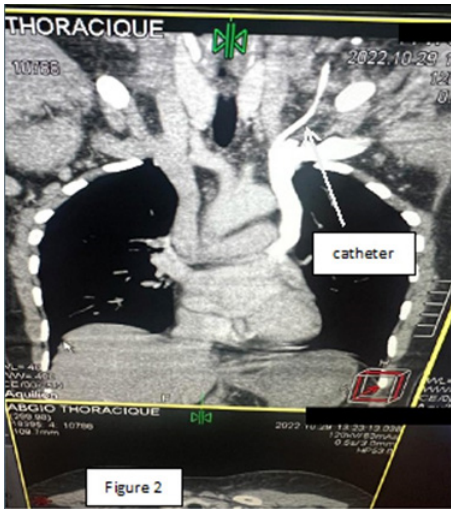

Figure 2: CT scan showing the left vena cava with medium contrast.

Discussion

Anomalies in the formation of the superior vena cava are rare in 0.3 to 0.5% of non-cardiopathic patients [1,2]. The discovery of this malformation during venous catheterization procedures could lead to removal of the catheter due to ignorance of this anatomical variation. All intensivist care and anesthetists should be aware of this possibility and carry out additional investigations if a catheter placed on the left under ultrasound guidance is located on the left on the control chest x-ray. This matter come to deeply remind the recommended chest x-ray after superior vena cava cannulation.

References

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