

# Arteria Lusoria and Persistent Left Superior Vena Cava : Vessel Aberrancy is A Bane for Cardiologist Too

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Dear Editor,

Persistent left superior vena cava(PLSVC) is an embryologic consequence of the left superior cardinal vein failure to regress. PLSVC most commonly drains into right atrium via the coronary sinus(CS) but some PLSVC also drain into the left atrium via fenestrated CS. Wong *et al* described the incidental finding of PLSVC after placement of left internal jugular catheter into left atrium<sup>1</sup>. If it was done under fluoroscopy guidance, then the unusual catheter course along the left paramedian chest would have raised suspicion immediately and possibly avoided unnecessary catheter removal and reinsertion attempts. Pacemaker implantations are usually done on the left side through direct subclavian, axillary vein puncture, or cephalic vein cutdown. For the unwary operator, he may encounter problems with placement of the right ventricular(RV) lead as the lead traverses the PLSVC, exits the CS ostium and bends into the RV. It is technically challenging. On the contrary, placement of the left ventricular lead of cardiac resynchronization therapy device should be easy as the PLSVC connects directly to the CS system. Hence, the practice of shooting contrast through the left brachial vein when there are technical difficulties, would not only delineate clearly the central vein system to facilitate venous access for device implantation but also its drainage into the heart. The detection of PLSVC would avoid left chest wall skin cutdown with double surgical scar on the chest wall in the event the operator decides to abandon left central vein approach and moves to the right side. After the detection of PLSVC through venogram, it is advisable to proceed straight to right sided device implantation.

On the arterial side, arteria lusoria is often the bane for interventional cardiologist doing radial approach coronary catheterization. Arteria lusoria is aberrancy of right subclavian artery with an incidence of 0.2-1.7%<sup>2</sup>. The catheter will tend to advance into the descending aorta and the catheter will eventually make an acute bend into ascending aorta. Catheter engagement of the coronary system can be difficult and the use of long exchange 0.035 inch guidewire will help to facilitate the advancement of the guiding catheter for subsequent percutaneous coronary intervention. If the procedure through radial route is too difficult, then switching to femoral approach would save time and reduce radiation exposure. Awareness, anticipation and contingency plan are imperative in performing interventional procedures with concomitant aberrant vessel.

## REFERENCES

1. Wong KW, Yap FL. Persistent left superior vena cava diagnosed during haemodialysis catheter placement - a case report. *Med J Malaysia*. 2013;68(4):360-1.
2. Yiu KH, Chan WS, Jim MH, Chow WH. Arteria Lusoria Diagnosed by Transradial Coronary Catheterization. *JACC Cardiovasc Interv*. 2010;3(8):880-1.

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