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Two congenital anomalies, an alternative access – Persistent Left Superior Vena Cava

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Abstract: The authors present an image case that portrays an association between two congenital anomalies (bicuspid aortic valve and persistent left superior vena cava). This case not only highlights the overlap between the two congenital anomalies, but also conveys the difference in lead placement for dual chamber pacemaker and the importance of being aware of such anatomical variants. Fig. 1, Ref. 3, on-line full text (Free, PDF) www.cardiologyletters.sk

Key words: Persistent Left Superior Vena Cava – congenital anomalies – pacemaker implantation

Persistent left superior vena cava (PLSVC) is an uncommon vascular anomaly, occurring in 0.3-0.5% of the general population. It represents the most common congenital thoracic venous anomaly. It is most commonly observed in isolation but can be associated with other cardiovascular abnormalities including atrial septal defect, bicuspid aortic valve, coarctation of aorta, coronary sinus ostial atresia, and cor triatriatum. It is usually found incidentally on imaging or vascular procedures. Transvenous permanent pacemaker implantation in patients with PLSVC may be challenging because of the complex anatomy (1–3).

We present the case of a 45-year-old female with a 3-month-old aortic valve replacement for bicuspid aortic valve who presented with a complete atrioventricular block. Hence, indication for dual-chamber pacemaker DDDR was met. During the procedure, the left cephalic vein was accessed for leads placement. Lead progression demonstrated a PLSVC, which presented further technical difficulty. A dual-chamber pacemaker was implanted, with an auricular lead in the high auricular septum and the ventricular lead in the apex (**Figure 1**). This case emphasizes the importance of understanding the co-existence of congenital anomalies in the same patient. Despite the technical challenge it was possible to achieve an effective and stable catheter position without compromising the safety of the procedure or having to use alternative access sites.

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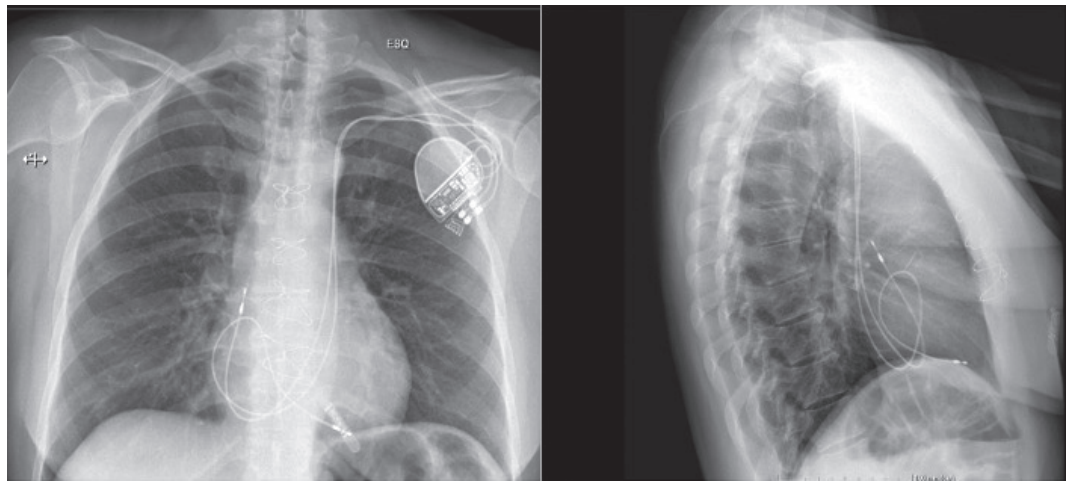

Figure 1 Antero-posterior view and left-sided view, showing ventricular lead in the right ventricular apex and auricular lead in the high auricular septum

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