

## **In rare cases, complete absence of a right sided superior vena cava may have dispersion of pacemaker and conduction tissue leading to abnormal electrocardiography readings” Mifflin et al (2017).**

### Abstract:

Introduction: A persistent left superior vena cava is one of the most common thoracic vascular anomalies, present in approximately 0.5% of the general population. The most common presentation is both a right and left superior vena cava, communicating through an innominate vein. In rare cases, complete absence of a right sided superior vena cava may have dispersion of pacemaker and conduction tissue leading to abnormal electrocardiography readings.

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Case Description: This case report describes the insertion of a peripherally inserted central catheter via the right basilic vein utilising ultrasound and electrocardiographic guidance during which atypical P-waves were noted. Post procedure chest x-ray found the catheter to be positioned to the left side of the chest.

Discussion and Evaluation: Initial management was to assess whether the catheter was placed in the arterial system. Catheter transduction and blood gas analysis demonstrated the peripherally inserted central catheter was situated in the venous system. Computer tomography was then used to assess the patient's vasculature, demonstrating a persistent left vena cava with absence of a right vena cava.

Conclusion: This case describes the successful placement of a right basilic peripherally inserted central catheter in a patient with a persistent left vena cava with an absent right superior vena cava using ultrasound and electrocardiographic guidance.

### Reference:

Mifflin, N., Sou, V., Alexandrou, E., Stewart, A. and Catt, J. (2017) Paradoxical Electrocardiographic Rhythm During Peripherally Inserted Central Catheter Insertion from Persistent Left Superior Vena Cava. The Journal of the Association for Vascular Access.



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