

Inferior Sinus Venosus Defect: Rare Inter - Atrial Communication

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Received Date: September 15, 2020; **Accepted Date:** October 04, 2020; **Published Date:** October 11, 2020

ABSTRACT

Inferior sinus venosus defects (SVD) are rare forms of inter-atrial communications. Operative images of an inferior SVD with inferior vena cava (IVC) draining to left atrium (LA) and its closure, with rerouting of IVC to right atrium (RA) is presented.

KEYWORDS

Inferior SVD; IVC drainage to LA

ABBREVIATIONS

CS: Coronary Sinus; FO: Fossa Ovalis; IVC: Inferior Vena Cava; LA: Left Atrium; OSASD: Ostium Secundum Atrial Septal Defect; RA: Right Atrium; SVC: Superior Vena Cava; SVD: Sinus Venosus Defect; TPP: Tanned Pericardial Patch; TV: Tricuspid Valve.

CASE REPORT

A 7-year-old child with recurrent respiratory tract infection and occasional palpitations was diagnosed with inferior SVD and an additional small ostium secundum atrial septal defect (OSASD). Surgical closure of the defects was performed. Postoperative recovery was uneventful [1].

SURGICAL FINDINGS

A low IVC cannulation was performed to improve visibility of inferior margins of the sinus venosus defect. Two inter-atrial communications, a large inferior SVD and a smaller OSASD (Figure 1A and Figure 1B) was

noted. The fossa ovalis was displaced anteriorly causing the entire IVC to drain below the plane of the inter-atrial septum into the LA (Figure 1A). Pulmonary venous drainage to LA was normal [2]. The lower end of the patch was anchored to the floor of LA and the defect baffled to drain IVC to RA (Figure 1B and Figure 1C). OSASD was closed directly.

SURGICAL IMPLICATIONS

Recognition of the anatomy and identification of the margins avoids inadvertent iatrogenic drainage of IVC to LA at the end of surgery. Inferior SVD at times may be associated with anomalous pulmonary venous

Citation: Don Jose Palamattam, Inferior Sinus Venosus Defect: Rare Inter - Atrial Communication. J Heart 2(2): 35-36.

connections but with retention of pulmonary venous drainage to the left atrium [2].

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.



Figure 1: (A): Interior of RA shows inferior SVD (margins denoted by dotted black lines). IVC (#) and right pulmonary veins (PVs) draining into LA. (B): OSASD (*) is seen distinctly anterior to the inferior SVD and separated from it by the FO. Pericardial patch being anchored to the floor of LA to baffle IVC (#). The inferior margins of SVD can be seen separately and in a different plane from the anchoring of the patch. (C): Inferior SVD closed with tanned pericardial patch (yellow arrow). Small black arrows indicate anchorage of lower end of the patch effectively rerouting the IVC (#) opening into RA. Dotted black lines represent atrial septal plane.

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