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Anomalous Pulmonary Artery Membrane: A Rare Membrane Obstructing Right Pulmonary Artery

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I. Introduction:

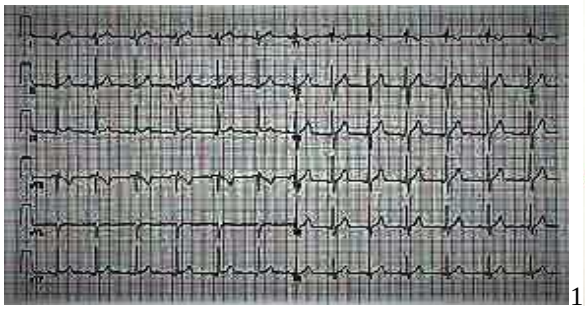
Several types of anomalous bands in various chambers of hearthave been reported and some are clinically significant. [1-5]Here we report a 3 years female child having a murmur and ECHORevealing presence of moderate sized ostiumsecundum atrialseptal defect (ASD) with rare anomalous right pulmonary artery(RPA) orifice. She underwent surgical resection of membrane andASD closure.

II. Clinical Presentation:

A 3years old female child presented with cough, cold and failure tothrive. CVS revealed grade 2/6 ejection systolic murmur at leftupper sternal border, conducted to the right mid chest. PA stenosiswas clinically impressed. ECG revealed rsR' pattern in V1 lead.ECHO (Parasternal short axis view) showed a long membranemeasuring 9mm, originating at the PA confluence, extending to RPAorifice (5.3mm) and obstructing at the origin of right pulmonary flowwith a gradient of 66mmHg. Proximal right and left PA weremeasured as 7.7mm and 8.8mm respectively. Subxiphoidbicavalview of transthoracic ECHO showed high type moderate size ostiumsecundum ASD measured as 9-10mm in width with left to rightshunt. It was a borderline divisible septal defect. CTVS teamadvised for surgical intervention in view of ASD in association ofRPA stenosis caused by membrane obstructing at the orifice ofRPA. Resection of obstructing membrane and plasty had been doneat the proximal portion of RPA along with the ASD closure.

III. Discussion:

The filamentous membranous structure can be visualized rarely by ECHO at the confluence or at the region of angle ofbifurcation of PA at various lengths, which is usually benign in nature. Rarely it can be longer and may obstruct the orifice ofRPA. The need for surgical intervention depends upon the gradient across the RPA which in our case was 66mmHg,producing unilateral PA hypertension and right ventricular dysfunction. Relieving the stenotic gradient at the PA wasnecessary to prevent other complications.



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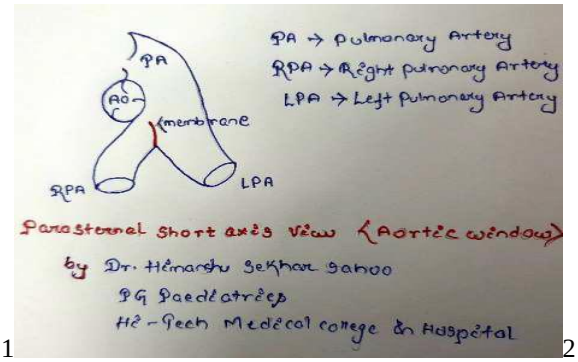

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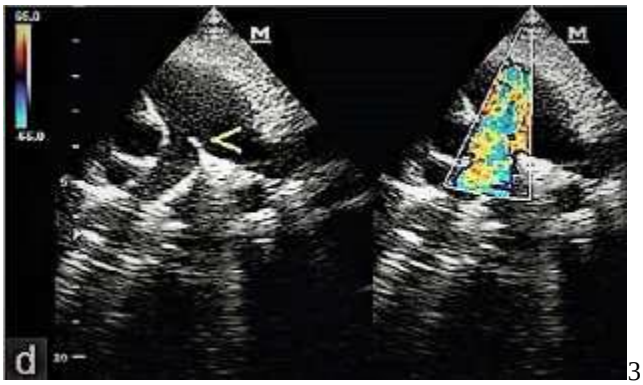

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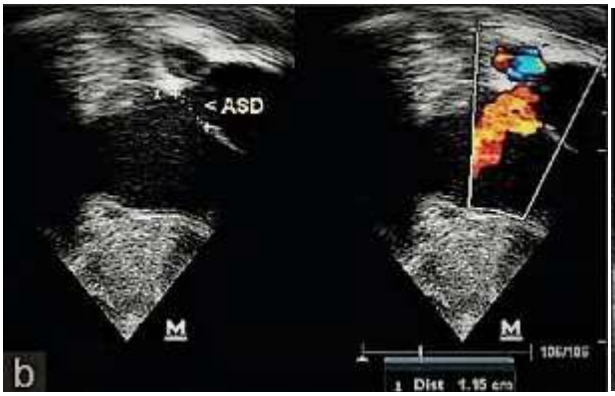

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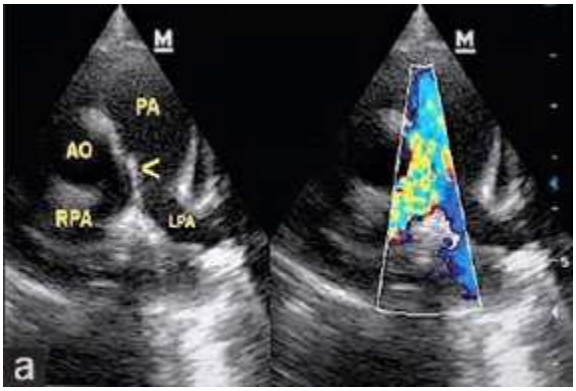

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IV. Conclusion:

Different types of anomalous bands, membranes, tendons and venous valves have been described in the chambers of heart, but not within the pulmonary artery bifurcation level. This membrane can be seen normally at various lengths without any obstruction. But when it becomes longer, may obstruct the orifice of pulmonary artery which can be well demonstrated by ECHO and needs surgical intervention.

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