

Association among Subaortic Membrane, Interventricular Membranous Septal Aneurysm, and Septal Defect

Membrana Subaórtica, Aneurisma do Septo Membranoso Interventricular e Defeito Septal Associados

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An asymptomatic 32-year-old man with a history of a heart murmur since childhood presented with a systolic ejection murmur at the left sternal border that was audible during a physical examination. Transthoracic echocardiography showed a fibromuscular crest-type subaortic membrane with a slight gradient elevation in the left ventricular outflow tract. Perimembranous interventricular communication partially occluded by accessory tricuspid valve tissue forming a ventricular septal aneurysm was also evident. The cardiac chambers had normal dimensions and geometry (indexed diastolic diameter and left ventricular mass of 28.6 mm/m² and

96 g/m², respectively). The interventricular pressure gradient was high (126 mmHg), and the patient’s systolic blood pressure during the examination was 140 mmHg, allowing estimation of the right ventricle pressure and, consequently, the pulmonary artery of approximately 14 mmHg. The subaortic membrane and the septal defect can change the aortic valve architecture, which creating aortic reflux (in this case, of a mild degree).

Conflict of interest

The authors have declared that they have no conflict of interest.

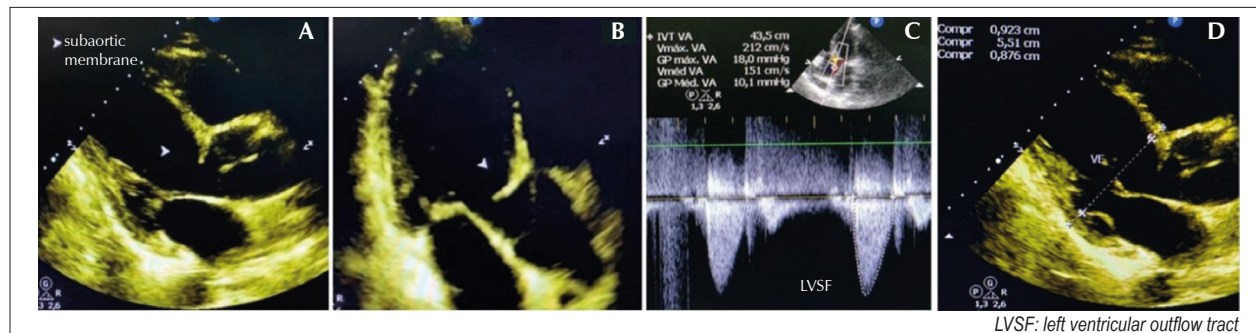
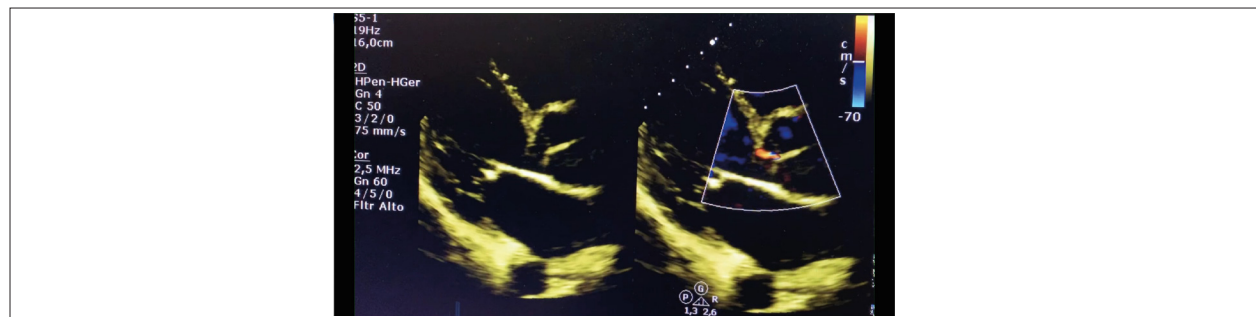


Figure 1 – Subaortic membrane (arrow) viewed on transthoracic echocardiogram in long axis view (A) and apical 3-chamber view (B); (C) Discrete increase in systolic gradients in the left ventricular outflow tract (maximum and medium aortic transvalvular gradient were 18 and 10mmHg, respectively); (D) Diastolic diameter of the left ventricle (normal value after indexing to the body surface area).



Video 1 – Subaortic membrane (fibromuscular crest) and mild aortic regurgitation.

Keywords

Aneurysm; Echocardiography; Septal Defect, Ventricular.

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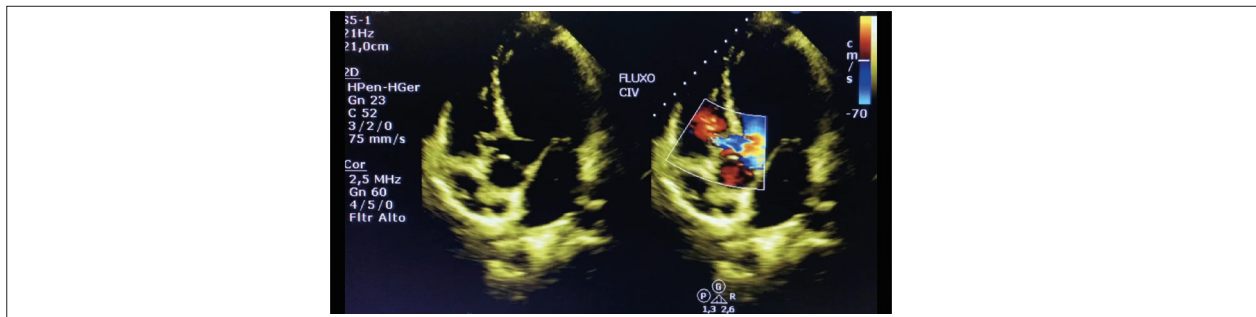
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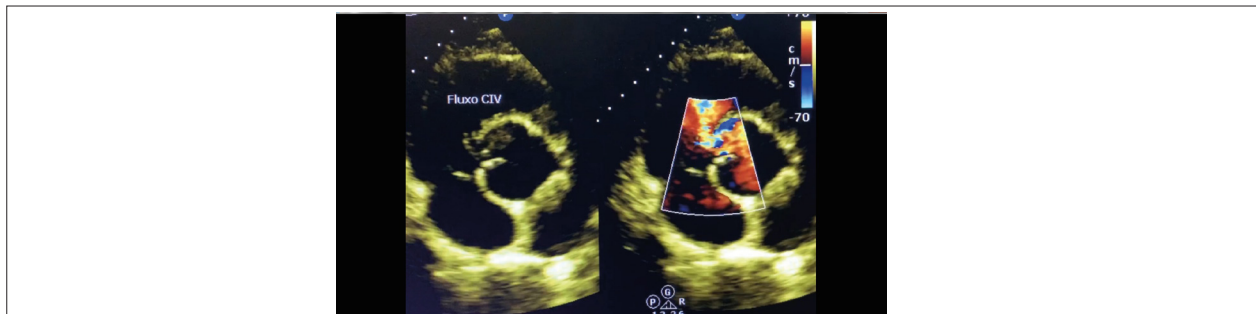
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Images



Video 2 – Aneurysm of the membranous interventricular septum and color Doppler systolic flow showing septal defect at the apex of the aneurysm.



Video 3 – Aneurysm of the membranous interventricular septum and color Doppler systolic flow (small septal defect at the apex of the aneurysm). Mild aortic regurgitation.