

CASE REPORT: UNRUPTURED LEFT SINUS OF VALSALVA ANEURYSM

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Abstract: A sinus of valsalva aneurysm is an abnormal enlargement of aortic root between aortic valve annulus and sino-tubular ridge(1). It can be congenital or acquired and present in 0.09% of the general population. Here we present the case of a 22 yr gentleman who presented with SOVA of left coronary sinus which is an extremely rare entity.

Keywords: SOVA, Aortic valve replacement, Mitral valve replacement.

INTRODUCTION

A sinus of valsalva aneurysm is an abnormal enlargement of aortic root between aortic valve annulus and sino-tubular ridge. It occurs as a weakness of the elastic lamina at the junction of aortic media and annulus fibrosis. It can be congenital or acquired and present in 0.09% of the general population. Upper limit for normal sinus diameter in men is 4.0 cm and 3.6 cm for women, with slight variations when adjusted for body surface area(2). Men are more affected than women (4:1)(4). These are usually associated with other congenital cardiac defects. VSD and AR are the most common coexisting cardiac defects. Mostly the patients are asymptomatic. They may present with dyspnea, palpitations, easy fatigability or angina. It can present with complications like arrhythmia, atrial fibrillation, or complete heart block, thrombus formation, acute coronary syndrome, aortic regurgitation. Anatomic positioning of sinus within the heart is the major determinant of clinical outcome in the case of SOVA formation and rupture. The origin of SOVAs is the right coronary sinus in 94%, the noncoronary sinus in 5%, and the left coronary sinus in 1%(3).

Medical management should serve as a bridge to help temporarily stabilize patients until surgical or transcatheter definitive therapy is available. Surgery is the choice of management, primary closure for small defects, patch closure for large defects, transcatheter device closure is an alternative for high cardiac risk patients.

CASE REPORT:

A 22-year gentleman presented with complaints of shortness of breath for 6 months and one episode of chest pain 2 months ago. On examination he had early diastolic murmur in aortic area and pan systolic murmur in mitral area. ECG showed normal sinus rhythm T inversions were present in lead I, aVL, L5, L6. Transesophageal echo revealed bicuspid aortic valve with severe Aortic regurgitation, moderate mitral regurgitation, dilated left ventricle, severe left ventricular dysfunction. SOVA was not reported.

We went in with a surgical plan for double valve replacement. He underwent surgical correction through a median sternotomy approach followed by initiation of hypothermic cardiopulmonary bypass by aortic and bicaval cannulation. Transverse aortotomy was done followed by ostial cardioplegic arrest with Del nido solution. Intraoperatively he was found to have left sinus of valsalva aneurysm of size approximately 5X4cm, with mouth of the defect measuring 2.5cm. Aortic valve was tricuspid with rudimentary left leaflet with leaflets non coapting. LA opened in Sondergaard's groove. Mitral valve replacement done with 25mm St. Judes mechanical valve. The aneurysmal defect was identified and closed with savage(PTFE) patch with soft felt pledgeted prolene sutures. Aortic valve replacement done with 19mm

St. Judes mechanical valve. Patient was weaned off bypass and post op period was uneventful.

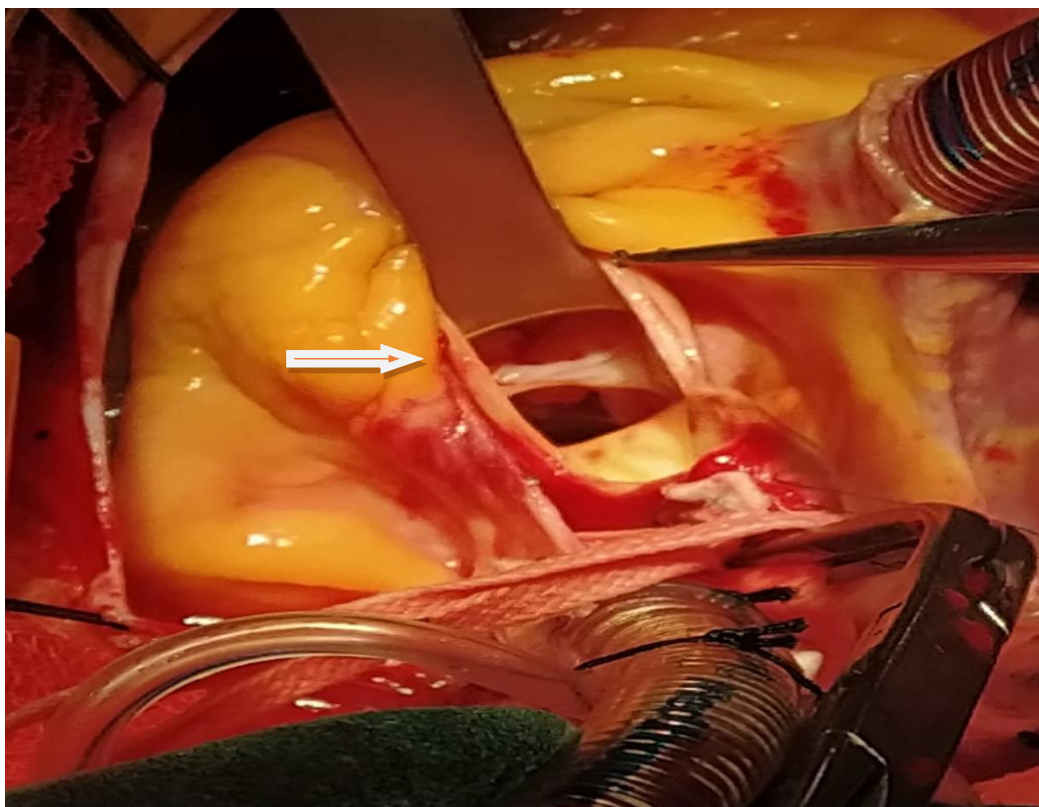


Figure 1. Intra operative picture.

White Arrow – Unruptured left sinus of Valsalva aneurysm

Post op echo showed patch intact, both valves functioning well, acceptable gradients, no paravalvular leak. Patient was symptom free at the time of reporting of this case.

DISCUSSION

Aneurysm of sinus of Valsalva of left coronary cusp is an extremely rare entity which accounts for 1% of the SOVAs. These are usually associated with other congenital cardiac defects. VSD and AR are the most common coexisting cardiac defects. Clinical manifestations may vary from an incidental finding on imaging to a life-threatening cardiac failure and sudden cardiac death. This patient reported with shortness of breath and one episode of chest pain. In this patient SOVA was not reported on 2D echo and was an incidental finding after aortotomy.

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