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Ruptured Sinus of Valsalva Aneurysm: An Unusual Cause of Pleural Effusion -Case Report

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ABSTRACT
Sinus of Valsalva aneurysm (SVA) is one of the rare cardiac anomalies described in the literatures and ruptured sinus of valsalva (RSOV) is a form of left-to- right shunt .The presentation may range from dyspnea to cardiogenic shock and death. Here we present a case of very rare presentation of a RSOV to right atrium and right ventricle.

INTRODUCTION

RSOV is a rare lesion that usually originates in right/non coronary aortic sinus and communicate with a cardiac chamber, producing an aorto-cardiac fistula. As clinical examination doesn't give much clue for the diagnosis, echocardio-graphy has become one of the important tool in diagnosing ruptured sinus of valsalval aneurysm. In this case report we are going to discuss about a case presented with bilateral pleural effusion which was found to have ruptured sinus of valsalval aneurysm to right atrium and right ventricle.

CASE REPORT

A 30 year old, female, married, athlete presented with fever and sudden onset breathlessness of 1 day duration. She gave history of multiple episodes of vomiting the previous night after having food from outside followed by pricking type of chest pain lasting for 5 minutes which subsided immediately. No significant past history or family history. On examination she was febrile, tachypneic. Pulse rate was 120/mt,BP-150/90mmHg. JVP was elevated with prominent v wave. Respiratory system examination trachea midline, chest movements, vocal fremitus and vocal resonance reduced in both right and left mammary, infra axillary, infra scapular areas. On percussion stony dullness in the afore mentioned areas. On auscultation breath sounds reduced in both right and left mammary, infra axillary and infra scapular areas. Cardio vascular system examination showed grade 3/6 high pitched systolic murmur in tricuspid area. Other system examination were within normal limits.
Investigations revealed neutrophilic leucocytosis

ECG-sinus tachycardia. Chest X ray-Cardiomegaly, B/L pleural effusion.
USG Chest-B/L pleural effusion Right>Left
USG Abdomen-mild ascites.
Pleural fluid study-TC-no cells,protein-2.2g/dl (T.Pro-6),sugar-106mg%,LDH-175.2 (Se.LDH-354.8), ADA-2.96 Suggestive of "TRANSUDATIVE EFFUSION".
ECHO- RSOV to Right atrium and Right ventricle.

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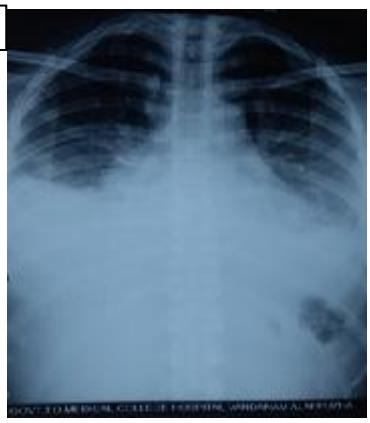

DISCUSSION

Sinus of valsalva is a thin walled, saccular ortubular out pouching, usually always in the right sinus (65-85%) or adjacent half of the noncoronary sinus (10-30%). RSOV has a male preponderance of 4:1.Congenitally weak area gradually gives way under aortic pressure to form an aneurysm. It can also be be acquired The aneurysm appears an excavation of the sinus which protrudes into the underlying cardiac chamber. Most of the congenital sinus valsalval aneurysm are clinically silent.
Presentation is depending on the size of the aneurysm, the rapidity with which it ruptures, the cardiac chamber with which it communicates. Unruptured aneurysm may present with RVOT obstruction, Severe MI, Conduction abnormalities due to its compression effects.
Ruptured aneurysm into right coronary sinus produces wind sock like deformity, which is absent in rupture into non cardiac sinus. Sudden appearance of a continuous murmur in an otherwise healthy individual, heard maximum at the lower sternal border or xiphoid. Diastolic accentuation of this murmur is an important sign to differentiate ruptured sinus from PDA orarterio venous fistula. Conventional angiography is the gold standard and can be used for both diagnostic and therapeutic purposes. The mainstay of treatment is cardiopulmonary bypass surgery.

CONCLUSIONS

The clinical presentation of Sinus of valsalval aneurysm is varid. The presentation may be due to the compression effect of unruptured aneurysm to acute heart failure in a ruptured aneurysm. In our patient the patient had rupture of sinus into right atrium and right ventricle presenting with bilateral pleural effusion and heart failure. Patient underwent open surgery and repaired for the same. Postoperatively patient improved and discharged.