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Clinical Image
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Atrial Septal Defect with Unusual Cause for Hypoxia and Arterial Desaturation

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Clinical Image

We report a case of 35 years morbidly obese housewife, known case of hypothyroidism, presented with history of progressive worsening of exertional dyspnoea NYHA class III since last 2 years. She had no history of palpitations, hemoptysis, syncope, orthopnoea, platypnoea. She had elevated JVP with prominent CV complexes without cyanosis, clubbing or pedal oedema. She had grade III/VI systolic murmur in LLSB with loud second heart sound with normal split. ABG showed pH-7.41, po2-63 mmHg, pCO2-38 mmHg, spO2 of 88% on room air. Pulmonary function tests, Serology and autoimmune workup were normal. Chest X-ray was unremarkable except right atrial enlargement. Transthoracic echocardiography revealed dilated RA, RV and pulmonary artery. Severe tricuspid regurgitation with RVSP 110 mmHg. There was large Ostium secundum ASD (40 mm × 30 mm) with left to right shunt. Transesophageal echocardiography confirmed findings of TTE but characteristically notable streaming of TR jet into left atrium during each systole which is causing mild arterial desaturation (Figure 1, 2).

Right to left shunt in the absence of suprasystemic PA pressures is rare condition which explained cyanosis in ASD. In the literature review some of the described conditions which cause streaming of IVC blood into LA are exurbent Eustachian valve of IVC and distorted RA anatomy after ascending aortic pathology/pneumonectomy surgery, platypnoea orthodeoxia syndrome, pulmonary embolism, ARDS are described.

In present case ASD was shunting from left to right but small amount of RV blood getting shunted through ASD via TR jet, which may justify hypoxia and mild arterial desaturation (PAH was present but it was not suprasystemic).

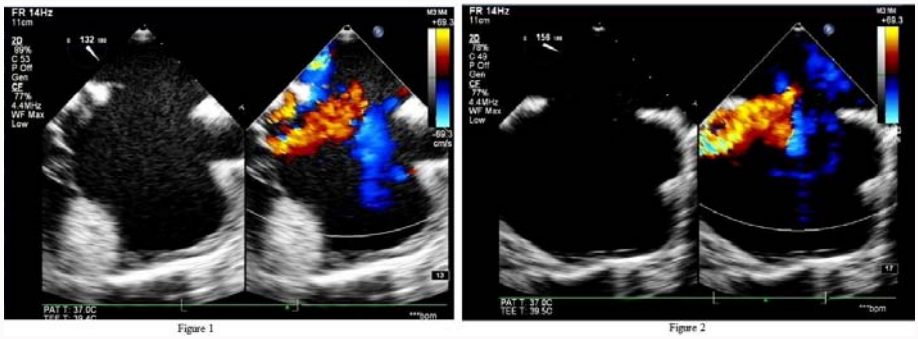

Figure 1 Figure 2

Figure 1 and 2: Transesophageal echocardiographic images showing moderate sized ostium secundum defect with Left to right shunt (blue flow) and a jet of tricuspid regurgitation (red flow) was seen clearly traversing across ASD (right to left shunt) causing mild arterial desaturation despite of non-eisenmengerized ASD.

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