

## TEACHING FILE

### Heart Disease

*Ira Shah*

**Case Report:** - An 8 month old girl born of non consanguineous marriage presented with not gaining weight since 4 months, fever and cough for 7 days, breathlessness and suck rest suck cycle for 5 days along with excessive sweating over forehead for 4 days. The child has had recurrent episodes of cough, cold and fever since birth. There is no contact with tuberculosis. On examination, the child had heart rate of 162/min (all pulses good volume) with respiratory rate of 60/min (subcostal, intercostal retractions and positive Nash's sign). On cardiovascular system examination, the apex was in the 5<sup>th</sup> intercostal space outside the mid clavicular line (hyperdynamic apex) with parasternal heave and epigastric pulsations. There were visible pulsations one space above the apex leading to a see-saw movement of the precordium. Second heart sound was palpable.

**What is the heart disease and what is the severity of the lesion?**

**Expert's opinion:** - This child has a congenital heart disease which is of moderate to severe variety in view of failure to thrive. Presence of suck-rest-suck cycle and excessive sweating suggests congestive cardiac

failure. Recurrent respiratory symptoms are suggestive of a cardiac lesion of increased pulmonary blood flow. Absence of cyanosis suggests an acyanotic heart disease. Thus the child has an acyanotic heart disease with increased pulmonary blood flow suggestive of a left to right shunt as in ventricular septal defect (VSD), atrial septal defect (ASD) and patent ductus arteriosus (PDA). The child has a good volume pulse. In ASD, pulse volume is normal. In PDA, pulse is bounding. VSD has a good volume pulse. Apex outside midclavicular line suggests cardiomegaly, hyperdynamic apex suggests left ventricular volume overload and parasternal heave and epigastric pulsations suggest right ventricular hypertrophy. Thus, this child has biventricular enlargement. Usually PDA causes left ventricular enlargement, ASD causes right ventricular enlargement and VSD causes biventricular enlargement. Thus, the child has VSD. See saw movement on precordium is due to left atrial enlargement and contraction of atrium against a filling phase of ventricle. Left atrial enlargement in a VSD is suggestive of a very large shunt. Thus this child has a large VSD.