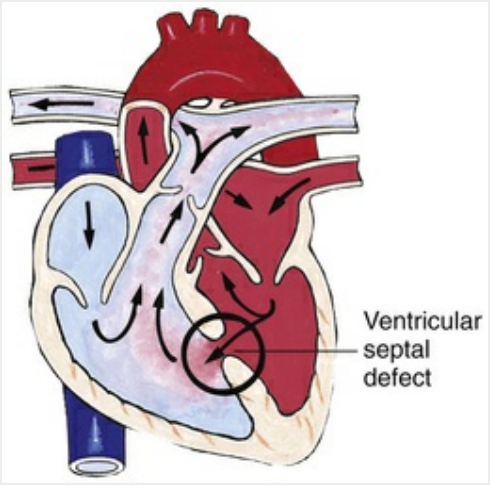

Description: Abnormal opening between the right and left ventricles. May be classified according to location: membranous (accounting for 80%) or muscular. May vary in size from a small pinhole to absence of the septum, which results in a common ventricle. VSDs are frequently associated with other defects, such as pulmonary stenosis, transposition of the great vessels, PDA, atrial defects, and COA. Many VSDs (20% to 60%) close spontaneously. Spontaneous closure is most likely to occur during the first year of life in children having small or moderate defects. A left-to-right shunt is caused by the flow of blood from the higher pressure left ventricle to the lower pressure right ventricle.

Pathophysiology: Because of the higher pressure within the left ventricle and because the systemic arterial circulation offers more resistance than the pulmonary circulation, blood flows through the defect into the pulmonary artery. The increased blood volume is pumped into the lungs, which may eventually result in increased pulmonary vascular resistance. Increased pressure in the right ventricle as a result of left-to-right shunting and pulmonary resistance causes the muscle to hypertrophy. If the right ventricle is unable to accommodate the increased workload, the right atrium may also enlarge as it attempts to overcome the resistance offered by incomplete right ventricular emptying.

Clinical manifestations: HF is common. There is a characteristic loud holosystolic murmur heard best at the left sternal border.