

Atrioventricular Septal Defect - Partial

Also known as partial atrioventricular septal defect, this is a combination of two defects:

1) a malformation of the Mitral Valve, the one-way valve between the left atrium and the left ventricle, or main pumping chamber of the heart. This consists of a cleft or notch in the "flaps" or leaflets of the valve, preventing complete separation of the left ventricle from the left atrium.

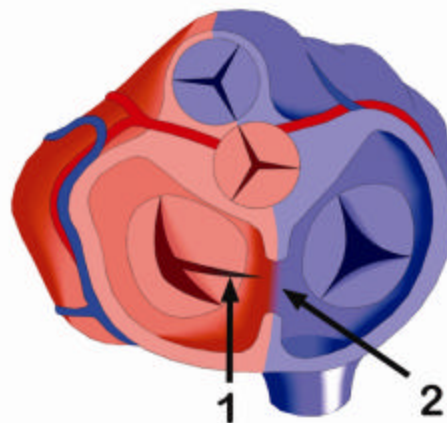
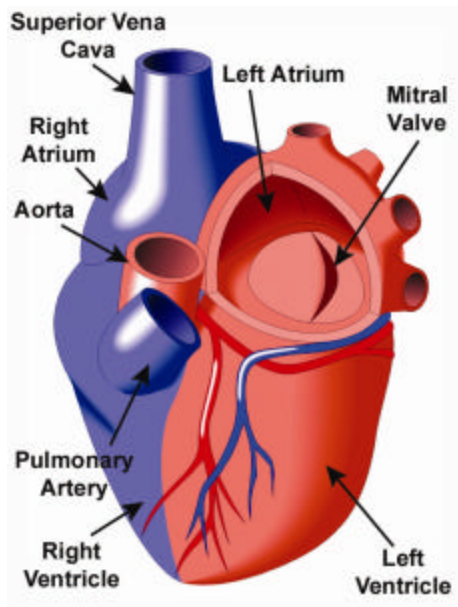
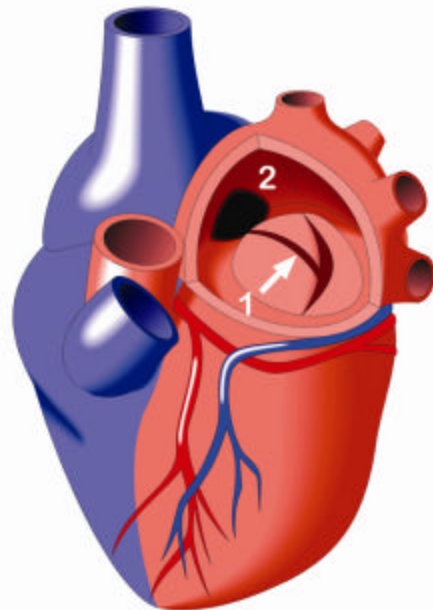
2) an Atrial Septal Defect (ASD), or hole in the septum (muscle wall) that separates the right and left upper chambers of the heart (atria). In partial atrioventricular canal defect, the atrial septal defect forms in the lower part of the atrial septum, which is known as an ostium primum type defect.

Children with this defect usually have a heart murmur and may have difficulty feeding and breathing. However, most grow well. Down Syndrome individuals comprise a smaller percentage of patients with partial atrioventricular canal defect than for the complete form of this defect (75%).

The atrial septal defect allows the mixing of oxygen-rich blood from the left atrium with oxygen-poor blood in the right atrium. This is known as a left to right shunt. The mixed blood in the right atrium is pumped to the lungs via the right ventricle, reducing the efficiency of the circulatory system. This may lead to heart failure with congestion of the lungs.

Eventually, the atrial septal defect will cause the enlargement (dilatation) of the right atrium and right ventricle, which may lead to irregular atrial pumping (arrhythmia) and/or right ventricular dysfunction.

The malformed mitral valve allows the leakage of blood between the left atrium and the left ventricle. The amount of leakage depends on the degree of deformation of the mitral valve. With time, a cleft mitral valve can result in the enlargement (dilatation) of the left atrium.



Top and Above:

1. Cleft and deformity of mitral valve.
2. Atrial septal defect, primum type.

Left: Normal Heart