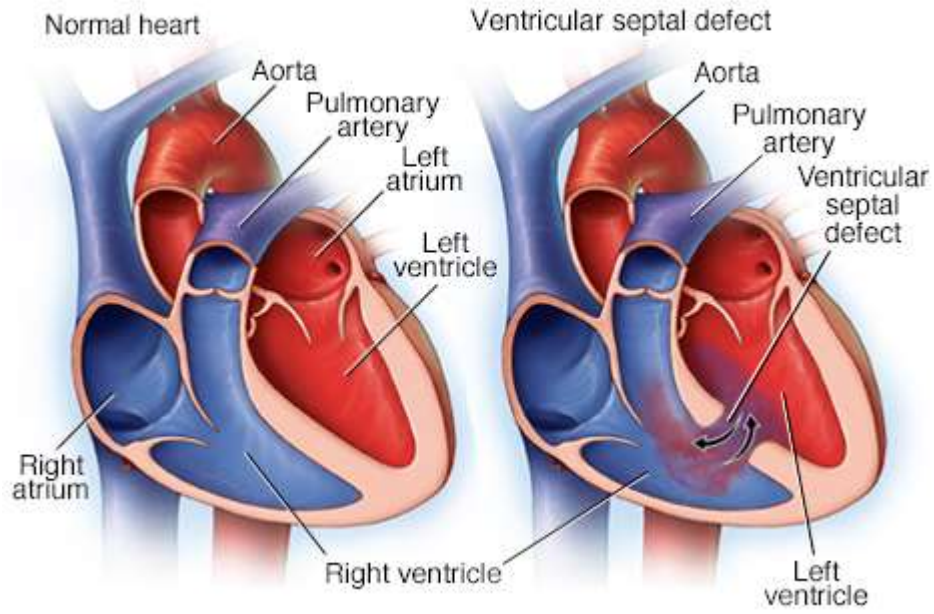

Ventricular Septal Defect

Definition:

In a normal heart, there is a wall that separated the lower chambers of the heart from each other. In a ventricular septal defect (VSD) there is a hole in the wall between these lower chambers.

What causes it?

Cause is unknown. It is one of the commonest heart defects and can be known to exist with other heart defects.

How does it affect the heart?

Normally, the left side of the heart pumps oxygen rich blood to the body via the aorta and the right side of the heart pumps oxygen poor blood to the body via the pulmonary artery. In a child with VSD, blood will travel across the hole from the left ventricle to the right ventricle and so more blood will go to the lungs via the pulmonary artery. This will cause the heart to work harder and cause the lungs to be filled with blood (congested) especially if the hole is large enough. Eventually the lung arteries will be damaged.

How does it affect your child?

In small VSDs, there'll be no symptoms because the heart and the lungs don't work harder.

If larger VSDs, the child will experience heart failure (increased heart rate, increased breathing, difficulty in eating and growing). These symptoms usually show weeks after birth. If left long enough, irreversible changes may occur to the pulmonary artery carrying blood to the lungs (known as pulmonary hypertension).

Management Options:

In small VSDs, surgery isn't usually necessary as the VSD may close on its own. Close follow up with the pediatric cardiologist in the form of an echocardiogram every now and then.
In large VSDs, open heart surgery will be needed to close the defect. It will need to be repaired early in order to prevent future and irreversible problems that might occur down the line. Sometimes, the surgery may be delayed as the child's condition will not allow him to enter surgery. In these cases, the heart failure can be controlled with medication and as soon as the child is well enough, they can be scheduled for surgery. If the child cannot be controlled with medications, sometimes an alternative surgery known as pulmonary artery banding might need to be done. This involves, narrowing the pulmonary artery so that the blood going to the lung is less (protecting the lung from congestion and heart failure)
The surgery is an open heart surgery and involves closure of the defect with a patch. If the patient had a pulmonary artery banding done before, then the band is removed and the patch placed.

Sometimes VSDs can be closed via interventional catheterization using special devices.

What activities can your child do?

Usually, after repair, there should be no restriction of activities at all and the child can participate in normal sports with others. The decision will fall on the pediatric cardiologist but normally, there is no increased risk.

Follow up in the future:

Long term results are good. There will be a few regular checkups by the cardiologist after the surgery, but in the long run, no medication or additional surgeries will be necessary.
Children may need to receive antibiotics before any surgical or dental procedures to prevent infective endocarditis.