

Tetralogy of Fallot

Definition:

Tetralogy of Fallot consists of 4 features impairing the heart. These include:

- 1- A VSD
- 2- Pulmonary Stenosis
- 3- Overriding of the aorta (the aorta lies directly over the VSD)
- 4- Right ventricular enlargement

What causes it?

Cause is usually unknown but known to occur in children with inherited syndromes such as Down syndrome or DiGeorge syndrome. It can be associated with other heart defects.

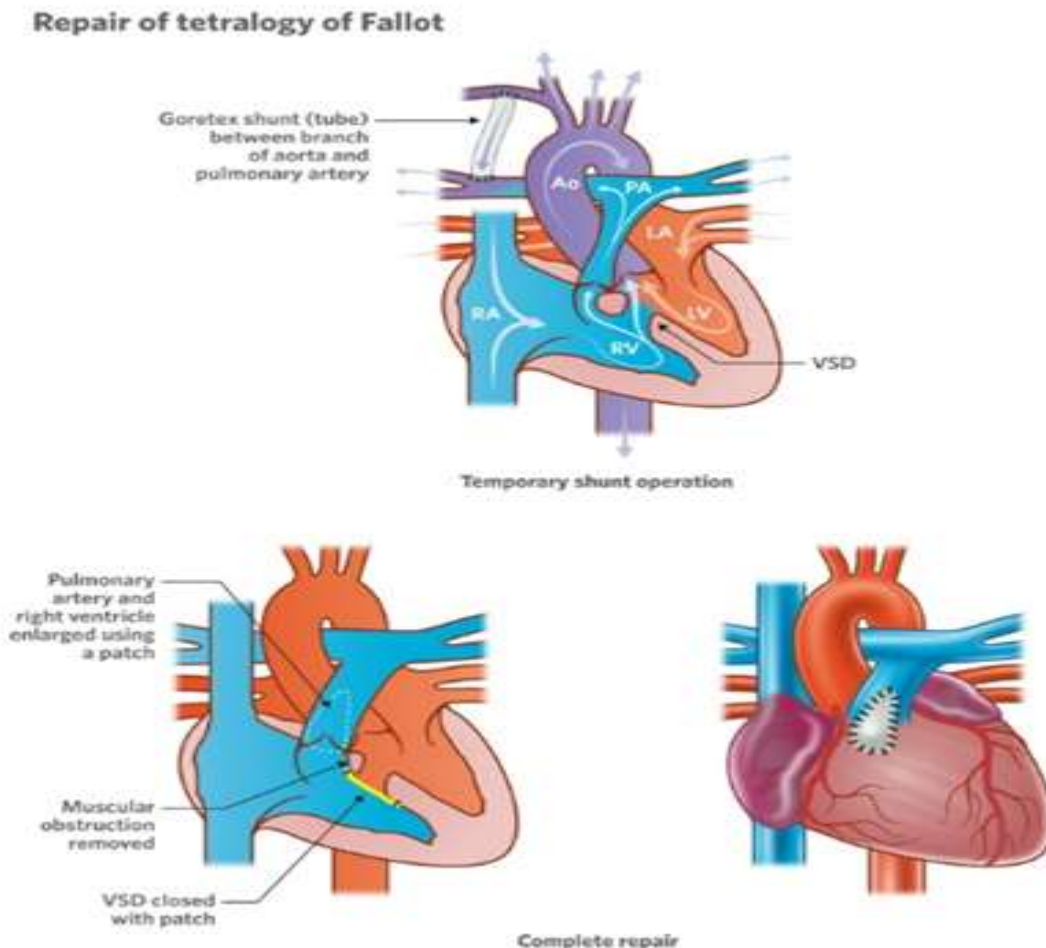
How does it affect the heart?

Normally, the left side of the heart pumps blood to the body via the left ventricle. Due to the anatomy presented in tetralogy of Fallot patients, deoxygenated blood can be directed from the right ventricle towards the left side of the heart through the VSD and to the aorta bypassing the narrowed pulmonary artery. This effectively decreases the oxygenation of the child, as the deoxygenated blood is not traveling to the lungs for oxygenation.

How does it affect your child?

The infant and young child will be blue due to inadequate oxygenation. Also, in most cases, they will develop tet spells in which the child, when exposed to stress, or cries, will become more blue which will lead to less oxygenation of the body, and can be managed by having the child squat, and medication to calm the child down. If severe and un-resolving, the child will need to go to the hospital immediately for further management.

Management options:



Tetralogy of Fallot is treated surgically, with a temporary operation sometimes done first if the baby cannot handle the full repair (due to small size or other problems).

The temporary operation involves the creation of a shunt to provide adequate blood to the lungs. It's not an open heart surgery but it doesn't cure the heart either. The shunt is usually called a Blalock Taussig shunt (BT shunt) which is a tube between one of the systemic arteries and the lung arteries. When the child is ready for the full repair, the BT shunt will be removed.

Full or complete repair is usually done early in life if there are no problems. The surgeon will close the hole using a patch, and removes some of the thickened muscle of the right ventricle (to allow for better passage) along with repair or removal of the obstructed pulmonary valve.

Will your child's activities be limited?

If there is a residual obstruction or leak in the pulmonary valve, then restriction might be needed in physical activity. If there aren't any residual problems with the pulmonary valve, then no restriction will be necessary. The decision will be guided by your pediatric cardiologist.

Follow up in the future:

Regular follow up will be done by your pediatric cardiologist as heart medicine, catheterization or further surgeries might need to be done. Occasionally, repaired tetralogy of Fallot patients might experience heart rhythm problems and will need to be followed up using ECGs and Holter monitors.

Children may need to receive antibiotics before any surgical or dental procedures to prevent infective endocarditis.