

Management of Tetralogy of Fallot

Anesthetic Pearls: The Anesthetic Management of Hypoxic Spells in Tetralogy of Fallot

Tetralogy of Fallot (TOF) consists of:

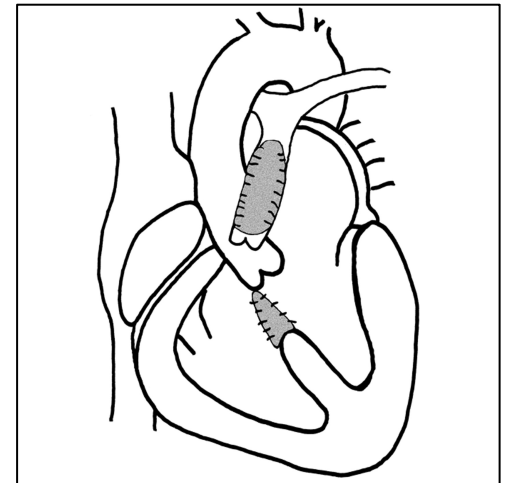
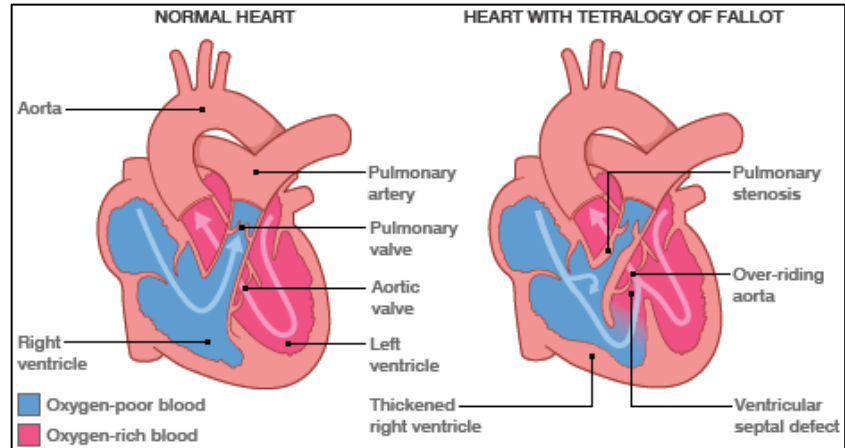
1. VSD
2. Right ventricular outflow obstruction
3. Aortic override of the ventricular septum
4. Right ventricular hypertrophy

The four features of TOF will be present to varying degrees and results in cyanotic heart disease. Hypercyanotic spells (“Tet spells”) commonly do not begin until after six months of age and are most common in patients who are acyanotic or only mildly cyanotic at rest.

Tet spells occur most commonly in the morning and are often brought on by crying, irritation, or exercise. If the Tet spells are left untreated, they can result in severe cyanosis and may progress to seizures. The mechanism for Tet spells is most likely due to a decrease in pulmonary blood flow secondary to infundibular cardiac muscle spasm resulting in obstruction to pulmonary blood flow; and a decrease in systemic vascular resistance with increased right - to - left shunting thereby causing hypercyanosis.

Clinical Pearl: Treatment consists of maneuvers to either increase SVR or decrease infundibular narrowing.

1. **Increase SVR:**
 - Place child in knee-to-chest position
 - Administer Phenylephrine
2. **Decrease Infundibular Narrowing:**
 - Beta-antagonist therapy (Esmolol / Propranolol)
 - Avoid sympathomimetic drugs that contain beta-agonist properties (Epinephrine / Ephedrine)
3. **Other generalized treatments:**
 - Narcotics - decrease irritability / excitement
 - Fluids
 - Oxygen



Surgically Repaired TOF