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Rastelli Procedure



13.1 Objective

The main objective of this procedure is to place a baffle within the ventricle to redirect systemic venous blood into the pulmonary artery and lung and systemic arterial blood into the ascending aorta. Cyanosis is the prevailing preoperative pathophysiology in congenital heart defects which require the Rastelli procedure.

Indications for Rastelli operation:

1. D-transposition of the great arteries with a ventricular septal defect and pulmonary stenosis.
2. Any other congenital defect that has two ventricles with overriding of the aorta and severe pulmonary stenosis or pulmonary atresia.
3. Double outlet right ventricle with pulmonary stenosis or atresia.
4. Pulmonary atresia with a ventricular septal defect.

13.2 Operative Technique

1. A right ventriculotomy incision is made, obstructive right ventricular muscle bands are excised, and the ventricular septal defect is visualized.
2. A large intraventricular Gore-Tex or Dacron baffle is sutured into a place, closing the ventricular septal defect that is more anteriorly placed and redirecting left ventricular outflow to the more anteriorly placed aortic valve.
3. A homograft valved conduit (or homograft patch) is utilized to achieve the right ventricular to pulmonary artery continuity.

13.3 Postoperative Management

The hospital stay averages one to two weeks after an uncomplicated operation.

Hemodynamic Management: Early hemodynamic instability may ensue as the operation is extensive. Postoperative hemodynamics are dependent upon free egress of blood from the left ventricle into the aorta and from the right ventricle into the pulmonary artery. Obstruction to either outflow tract will contribute to ventricular failure.

Intracardiac pressures should be normal postoperatively.

Arterial oxygen saturation should be normal.

Invasive monitors: Arterial, CVP (central venous pressure), and LA (left atrial) catheters.

An oximetric catheter may be used to monitor the cardiac output.

Vasoactive Drug infusions: Dopamine or dobutamine, epinephrine, milrinone, nitroprusside, and phenoxybenzamine (see Section I Chapters 4 & 16).

Postoperative Bleeding:

It is occasionally encountered from the suture lines.

AV conduction abnormalities: Cardiac arrhythmia and conduction defects are potential postoperative complications. Temporary atrioventricular pacing should be readily available at the bed side (see Section I Chapter 4).

