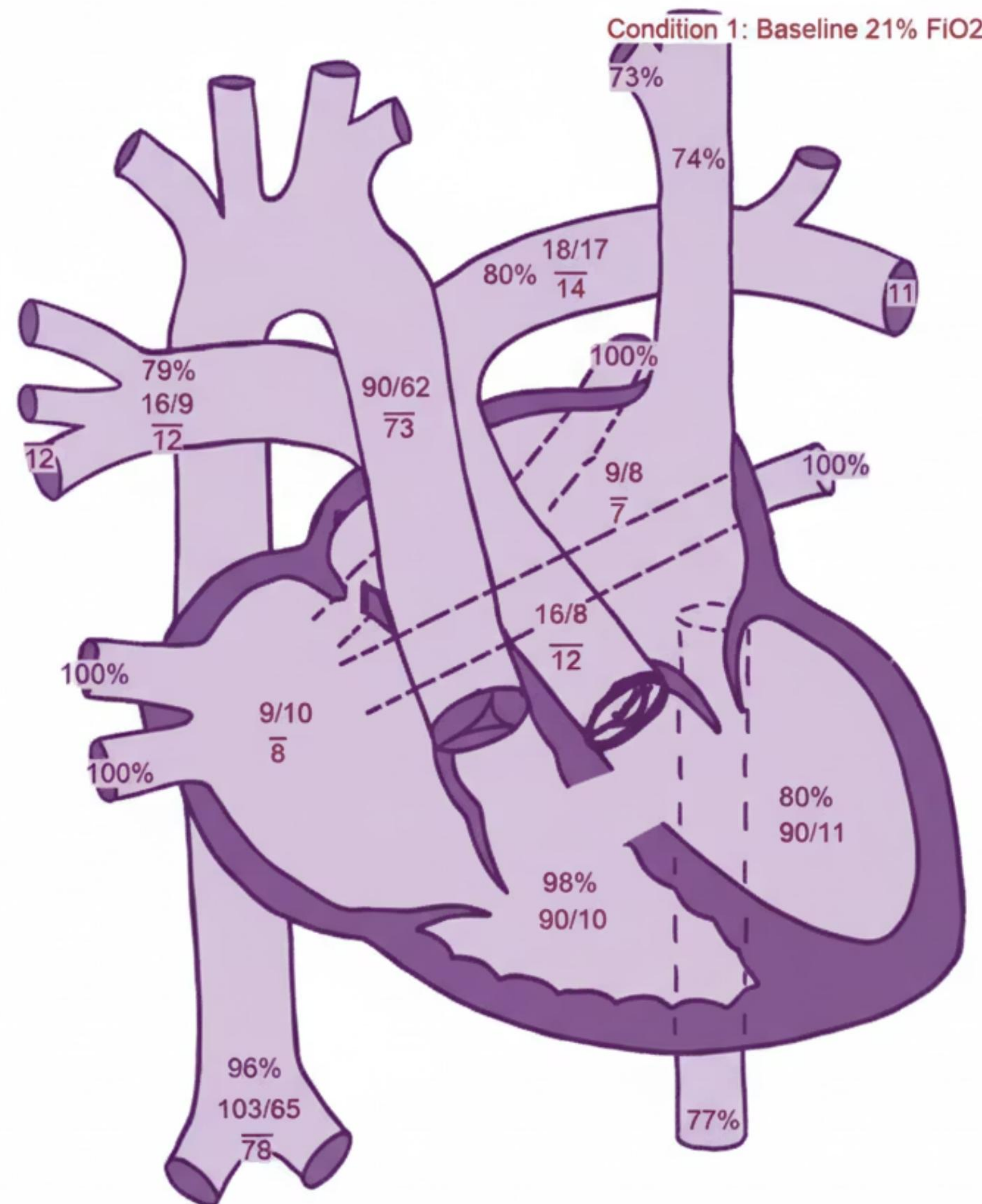




BACKGROUND

Anesthetic Management of a Parturient with Congenitally Corrected Transposition of the Great Vessels, Pulmonic Stenosis, and Single-Ventricle Physiology during Cesarean Delivery

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Pregnancy in complex CHD carries significant maternal and fetal risk. In **congenitally corrected TGV with a large VSD and pulmonic stenosis**, shunting creates parallel circulation, with the systemic ventricle **preload-dependent** and facing fixed pulmonary outflow obstruction.

Key hemodynamic concerns: ↓ **SVR** → ↑ **shunt** → ↓ **systemic perfusion** and ↑ **PVR** → **worsened hypoxemia**. Labor pain and Valsalva provoke hemodynamic instability, making **elective cesarean with multidisciplinary planning** the preferred approach.

22-Year-Old G1P0: ccTGV with VSD and pulmonic stenosis



Cardiac Profile

- ccTGV, heterotaxy
- Severe pulmonic stenosis (PG 65 mmHg)
- Large VSD, EF 55%

Anesthetic Strategy

- A-line + large-bore IV access
- **Low-dose CSE:** reduced spinal dose; epidural titrated in 2–3 mL increments
- **Vasopressin infusion** initiated pre-neuraxial
- Goal: maintain SVR, preload, hemodynamic stability

❏ **Outcome:** Hemodynamically stable throughout. No maternal or fetal complications. Postoperative CVICU monitoring.

TEACHING POINTS

Key Principles for Anesthetic Management

Avoid ↓ SVR

Prevents worsening R→L shunt and systemic hypoperfusion and hypoxia

Maintain Preload

Single-ventricle physiology is preload-dependent; avoid relative hypovolemia

Titrated Neuraxial

Low-dose CSE with incremental epidural dosing is safer than single-shot spinal

Vasopressin First-Line

Supports SVR with minimal effect on PVR – ideal for this physiology

Team-Based Planning

Multidisciplinary coordination and CVICU care optimize maternal and fetal outcomes