

Hybrid Procedures in the Treatment of Congenital Heart Disease

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The hybrid procedure, combining surgical and interventional catheterization procedures has been proposed as an alternative for initial palliation of patients with complex congenital heart disease. This approach to management has been introduced to minimize exposure to cardiopulmonary bypass, and improve outcomes for these infants, especially for those, whom the surgical procedure is very high risk.

We would like to present Safra/Sheba experience with the hybrid procedure.

The hybrid procedure was performed in the catheterization laboratory in four neonates. Via median sternotomy, both branch pulmonary arteries were banded with external band of 3.5 mm tube, and an interventional cardiologist inserted a delivery sheath under fluoroscopic guidance to deploy a stent through the arteriotomy in the ductus arteriosus to ensure long-term patency.

In this manner, antegrade flow to the descending aorta and retrograde flow to the aortic arch and cerebral and coronary vessels can be maintained. All procedures underwent successfully.

Preterm infants or those judged to be unsuitable for a prolonged cardiopulmonary bypass are selected for the hybrid pathway.

We conclude, The Hybrid Procedure - surgical bilateral pulmonary artery banding and interventional catheterization with ductal stenting, can be good alternative in selected patients with Hypoplastic left heart syndrome, who are considered high risk for standard Norwood-Sano surgery.