

Postgraduate Course Video Session

Postgraduate Course Video Session (III-PCV)

Complex BVR Video Session - Challenges and technical solutions -

Chair: Tadashi Ikeda (Department of Cardiovascular Surgery, Kyoto University Graduate School of Medicine, Japan)

Chair: Shingo Kasahara (Department of Cardiovascular Surgery, Okayama University, Japan)

Sun. Jul 9, 2017 3:10 PM - 5:00 PM ROOM 3 (Exhibition and Event Hall Room 3)

3:10 PM - 5:00 PM

[III-PCV-02] Staged complete repair without homograft use in patients with pulmonary atresia–ventricular septal defect and major aortopulmonary collateral arteries

○Akio Ikai¹, Junichi Koizumi², Takayuki Hagiwara², Tomoyuki Iwade², Ryoichi Kondo², Satoshi Nakano³, Shin Takahashi³, Kotaro Oyama³ (1. Department of Cardiovascular Surgery, Mt Fuji Shizuoka Children's Hospital, Japan, 2. Department of Cardiovascular Surgery, Iwate Medical University, Japan, 3. Department of Pediatric Cardiology, Iwate Medical University, Japan)

Keywords: PAVSD MAPCA, unifocalization, Rastelli

Objective: Repair of PAVSD and MAPCAs remains challenging, particularly without the use of a homograft. We show our surgical strategy consisting of primary unifocalization and staged complete repair in video.

Methods: Since 2007, 11 consecutive patients with PA-VSD and MAPCAs underwent primary unifocalization (UF). Median patient age and body weight were 7.3 months and 7.3 kg, respectively.

Surgical technique of primary UF: A median sternotomy incision of a length longer than is usually made. Central dissection for MAPCAs was performed without cardiopulmonary bypass. After initiation of cardiopulmonary bypass, origins of all MAPCAs were clamped with a vascular clip. All patients underwent primary UF using tissue-to-tissue anastomosis with continuous 8-0 polypropylene suture. The central pulmonary artery (PA) was absent or diminutive in all cases; therefore, the floor of the central PA was created using MAPCAs with end-to-end anastomosis. The anterior wall of the central PA was created using a fresh autologous pericardial patch with a target diameter of at least 10 mm. The source of pulmonary blood flow was established using a modified Blalock-Taussig shunt.

Results: There was one early death. Post-UF cardiac catheterization showed that mean PA pressure was 16.1 mmHg. Ten patients underwent staged complete repair at a mean interval of 7.1 months after UF. The median ePTFE conduit diameter was 16 mm. The mean intraoperative RV/LV ratio was 0.53.

Conclusions: Even without a homograft, primary UF was completely and successfully performed.