

2<sup>nd</sup> Global Congress and Expo on

# Pediatric Cardiology & Healthcare

September 22-24, 2016 Las Vegas, USA

## Prenatally planned hybrid cardiac procedure in critically ill neonates with complex congenital heart disease

**Takashi Sasaki**<sup>1</sup>Nippon Medical School, Japan<sup>2</sup>Kanagawa Children's Medical Center, Japan**Objective:** To review the outcomes of hybrid cardiac surgery for critically ill neonates with complex congenital heart disease.**Methods:** Retrospective review in five hybrid cases performed between 2010 and 2015.**Results:** Age at surgery was as follows; within the first 90 minutes after birth in 3, 1 day in 1 and 2 days in 1. All but one was diagnosed prenatally and planning for hybrid procedure was made before birth. There were hypoplastic left heart syndrome (HLHS) with severely restrictive atrial septal defect (ASD) in 3 and critical aortic stenosis (AS) with borderline left ventricular function in 2. All procedures were performed through a median sternotomy. In neonates with HLHS, ASD was created with a stent inserted through the right atrial wall followed by bilateral pulmonary artery banding (PAB). In neonates with AS, bilateral PAB was performed followed by balloon aortic valvotomy via the brachiocephalic artery. ASD was created in one of two patients with critical AS for LV rehabilitation. One died of coronary hypoperfusion after ASD stent insertion presumably due to sinusoidal communication. There were two late deaths including one in HLHS caused by peripheral pulmonary venous obstruction and one in AS due to hemorrhage during balloon dilatation of PA. One completed Fontan and one completed biventricular repair.**Conclusions:** Hybrid procedure enabled us to perform ASD creation and regulation of pulmonary blood flow as well as aortic valvotomy simultaneously without use of cardiopulmonary bypass immediately after birth in critically-ill neonates. Prenatal diagnosis was useful in planning hybrid procedures before birth. A highly advanced collaboration among a multidisciplinary team must be a crucial step to further success.

### Biography

Takashi Sasaki graduated from Nippon Medical School in 1998. After cardiothoracic residency, he studied optimal cardiopulmonary bypass management for neonates with arch anomaly at Stanford University. Then he completed pediatric cardiac surgery fellowship at British Columbia Children's Hospital. He came back to Japan in 2012 and is currently working at Nippon Medical School and Kanagawa Children's Medical Center.

tsasakister@gmail.com

### Notes: