

MP3-16

Hybrid palliation for hypoplastic left heart syndrome and variants: a single center 5-year experience

Manuri L.(1), Oreto L. (2), Saitta M. (1), Iannace E.(1), Iorio F.S.(1), Guccione P. (2), Agati S. (1)
(1) Pediatric Cardiology Mediterranean Center-OPBG, Taormina, Italy
(2) Bambino Gesù Children's Hospital, Rome, Italy

Background.

Hybrid palliation is an alternative to Norwood stage I for the initial management of hypoplastic left heart syndrome (HLHS). We aimed to report our experience with hybrid strategy in HLHS over 5 years in a tertiary care Institution.

Methods and Results.

Forty- eight consecutive patients with HLHS or variants underwent hybrid palliation at a mean age of 2.7 days and mean weight of 3.08 Kg. Balloon atrioseptostomy was required in 5 patients and surgical septectomy in 2 cases. In-hospital death was 11% (5 patients, including 2 preterms and 1 congenital atrioventricular block). Three high-risk patients were diverted to rescue Norwood operation between 37 and 60 days, with 2 early deaths. Interstage mortality was 11% (5 patients, including 1 preterm and 2 intracranial hemorrhage). Fifteen patients required interventional procedures during interstage (mean age 3 months), such as atrial septal dilatation (3 cases) or stenting (7 cases), ductal stent dilatation (9 cases) or restenting (2 cases). Three patients underwent stage II operation in other Institutions. At a mean age of 6 months, 17 patients had comprehensive Norwood stage I-II, whereas 15 received biventricular repair. Survival after surgical stage II was 79% and 93% , respectively. All 11 patients after comprehensive I-II and 4/13 after biventricular repair required interventional procedures for pulmonary branches stenosis, either balloon dilatation (16 procedures) or stenting (7 procedures). Six patients underwent Fontan operation and 4 are currently awaiting. Overall survival is 59%.

Conclusions.

In our experience hybrid palliation has been the treatment of choice for HLHS and variants, unless contraindicated by the presence of aortic reverse coarctation or excessive ductal diameter. Despite the tendency described by the Society of Thoracic Surgeons Congenital Heart Surgery 2015 Database, that institutions with higher hybrid use are expected to have low annual HLHS case volume (<5/year), our average case volume is almost double (9/year). Besides, our in-hospital mortality lies below that reported by STS database. Moreover, hybrid approach resulted in a successful bridge to biventricular repair in as much as 7 patients with hypoplastic mitral and aortic valves, who would have not been eligible for biventricular repair at birth.