MP1-2

Early outcomes following heart transplantation are not affected by stage of univentricular palliation

González-López M.T. (1), Gil-Jaurena J.M. (1), Pérez-Caballero-Martínez R. (1), Pita-Fernández A.M. (1), Gil-Villanueva N. (2), Camino-López M. (2)
Pediatric Cardiac Surgery, Gregorio Marañón Hospital, Madrid, Spain (1); Pediatric Cardiology, Gregorio Marañón Hospital, Madrid, Spain (2)

BACKGROUND. Following univentricular palliation, unfavorable factors might disqualify patients from progressing towards Fontan completion, necessitating heart transplantation (HT). HT for single-ventricle patients presents a difficult challenge and outcomes remain unclear according to the previous univentricular staging. We reviewed our experience in recent years.

PATIENTS/METHODS. From 2013-2015, 16 univentricular patients underwent HT (12 children, 4 adults). Clinical features/palliation stage: table. Primary diagnosis: HLHS (n=9), PA+IVS (n=1), unbalanced AVSD (n=1), tricuspid atresia (n=3); DILV+subpulmonary stenosis (n=1) and TGA+criss-cross+VSD (n=1). Post-operative complications/short-term outcomes were included. Comparative analysis between Fontan (n=8) and single-ventricle non-Fontan (n=8) patients was conducted (Fisher/Mann-Whitney tests).
RESULTS. 4 patients (25%) were inotrope-dependent at listing. Berlin-Heart-EXCOR (bridge) was used in 1 patient. Median interval to HT was 90+/-21 days (range 1-208). The following reconstructive techniques (bicaval technique) were performed: hemiarch repair (25%,n=4), pulmonary artery (PA) plasty (31.2%,n=5), hilum-to-hilum PA reconstruction (56.2%,n=9), superior venae cavae (SVC) reconstruction (12.5%, n=2) and stent removal from PA (56.2%,n=9), inferior venae cavae (6.2%,n=1) and lateral-tunnel-Fontan (6.2%,n=1). Cardiopulmonary-bypass time was 244.6+/-75.3 minutes (range 117-434); total-ischemia-time 217.3+/-45.2 (range 139-283). Post-operative complications/early mortality: table. Post-operative ECMO was instituted due to ventricular dysfunction (n=3). 1 patient developed subacute-humoral-rejection treated with plasmapheresis. No differences between post-op complications were detected. Survival was not affected by the previous univentricular stage (30-day mortality: intraoperative massive bleeding (n=1) and sepsis following ECMO support (n=1)). In-hospital stay was 46+/-16 days (range 23-161). At follow-up (14.4+/-7.2 months), no mortality cases were detected; incidence for percutaneous interventions was higher for single-ventricle non-Fontan group (25% vs 0%; p<0.04). All the survivors (n=14) remain with optimal functional class.
CONCLUSIONS. HT is an effective option for patients following intermediate univentricular circulation with outcomes comparable to those with Fontan circulation. It can be performed with encouraging short-term results, reflecting current advances in surgical/perioperative management and immunosuppression strategies.

	SINGLE-VENTRICLE NON-FONTAN PATIENTS (n=8)	**FONTAN PATIENTS (n=8)**	p
Median age (years)	**Pediatric group** (n=7): 6.1+/-1.8 (range 1.5 months-9 years)	**Pediatric group** (n=5): 9.9+/-1.2 (range 8-13.5)	-----
	GUCH group (n=1): 25 years	**GUCH group** (n=3): 21.6+/-0.6 (range 21-23)	
Median weight (kg)	**Pediatric group** (n=7): 18.5+/-8.7 kg (range 3.7-36)	**Pediatric group** (n=5): 28.4+/- (range 23-31)	-----
	GUCH group (n=1): 64 kg	**GUCH group** (n=3): 51.3+/-8.6 (range 43-61)	
Palliation type	Fontan take-down (n=2); Glenn shunt (n=5); BT shunt (n=1)	Classical Fontan (37.5%, n=3); extracardiac Fontan (62.5%, n=5)	-----
Post-op ECMO	12.5% (n=1)	25% (n=2)	p<0.96
Delayed sternal closure	25% (n=2)	12.5% (n=1)	p<0.94
Post-op percutan. procedures	25% (n=2): RPA stent; ascending aorta stent	12.5% (n=1): SVC stent	p<0.34
30-day mortality	12.5% (n=1)	12.5% (n=1)	p<0.71
Follow-up percutan. proc.*	25% (n=2): SVC stent; RPA ballooning	0% (n=0)	p<0.04*