EARLY OUTCOMES FOLLOWING HEART TRANSPLANTATION ARE NOT AFFECTED BY STAGE OF UNIVENTRICULAR PALLIATION

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

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 AND METHODS. From 2013-2015, 16 univentricular patients underwent HT (12 children, 4 adults). Clinical features/palliation stage are showed in the table.

Primary diagnosis:
- HLHS (n=9)
- Pulmonary atresia + IVS (n=1)
- Unbalanced AVSD (n=1)
- Tricuspid atresia (n=3)
- DILV + subpulmonary stenosis (n=1)
- TGA + criss-cross + VSD (n=1)

Post-operative complications and 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 vena cavae (SVC) reconstruction (12.5%, n=2) and stent removal from PA (56.2%,n=9), inferior vena cavae (6.2%,n=1) and lateral tunnel Fontan (6.2%,n=1).

![Fig. 1. Fontan patient. A. Percutaneous devices. B/C. Pre- and post-transplant (anatomical details).](image)

Cardiopulmonary bypass time was 244.6+/−75.3 minutes (range 117-434); total ischemia time 217.3+/−45.2 (range 139-283).

- No differences between post-op complications were detected. Survival was not affected by the previous univentricular stage.
- 30-day mortality (n=2): 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. 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.

REFERENCES