Extracorporeal Life Support for Children with Late (post discharge) Rejection after Heart Transplantation: 10 year single center experience.


Objectives: To describe the management, course and outcome of late (following initial hospital discharge) rejection with acute haemodynamic compromise supported on extracorporeal life support (ECLS) in children with orthotopic heart transplantation (OHT).

Methods: Review of all children with acute haemodynamically relevant rejection requiring ECLS following OHT between 2/2002 and 10/2012.

Results: Of 197 consecutive children undergoing OHT (84 male; mean age 8.3±5.7 (range 0.1-18.8 years), 187 children survived and were discharged from hospital. Seven patients presented with severe haemodynamic compromise after initial hospital discharge following their transplantation (of whom one patient had been transplanted elsewhere). Mean follow-up was 5.0±3.1 (range 0.1-10.6) years.

All 7 children required ECLS, two were placed on to ECLS following in-hospital cardiac arrest. Median duration of ECLS was 8 (range 5-15) days. All children survived to decannulation with one death after ECLS from sepsis 20 days after presentation. The median (range) duration of inotropic requirement post ECLS was 11 (5-27) days, the median ventilation time was 8 (7-30) days, median ICU length of stay was 14 (10-54) days and median hospitalization was 24 (19-118) days.

In all patients, ventricular function normalized (FS>28%) within 10 (7-22) days. There was significant short-term morbidity; however, all survivors have a good functional status with no significant apparent neurological sequelae.

Conclusion: ECLS appears to be a good rescue therapy for children with severe acute rejection post OHT, refractory to conventional treatment, leading to good medium-term outcome.