

ISHLT 202343rd ANNUAL MEETING
& SCIENTIFIC SESSIONSWednesday, 19 April – Saturday, 22 April
Colorado Convention Center | Denver, CO USA

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Session SESSION 06 - Pediatric M.C.S. = Multi-center Collaborative Success!

10. Size Isn't Everything: Survival for Very Small Infants Supported by VAD

📅 April 19, 2023, 10:15 AM - 10:25 AM

📍 Rooms 405-407

Topic:

MCS-Pediatrics/Congenital Heart Disease

Presenter

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Disclosures

E.L.Frandsen: None. **M.Shezad:** n/a. **N.Shwaish:** n/a. **M.O'connor:** None. **A.Lorts:** n/a. **J.Philip:** n/a. **M.Bleiweis:** n/a. **P.Mcconnell:** n/a. **J.Friedland-little:** None.

Abstract or Presentation Description

Purpose Infants < 5 kg have historically had inferior outcomes with VAD support. We assessed contemporary outcomes for this population and evaluated the effect of primary diagnosis on survival using a registry database.

Methods The Advanced Cardiac Therapies Improving Outcomes Network (ACTION) registry was queried for all children <5 kg who underwent VAD implantation between 2012 and 2022.

Results 125 infants <5 kg underwent VAD implantation, including 63 with single ventricle (SV) congenital heart disease (CHD), 29 with biventricular (BiV) CHD, and 33 with dilated cardiomyopathy/myocarditis (DCM). Median year of implant was 2020. Median weight was 3.6 kg (IQR 3.2-4). At implant, 38% of patients were Intermacs Profile (IP) 1 and 52% were IP2, with no difference in profiles between groups. There was no significant difference in pre-VAD mechanical ventilation (87% of entire cohort), ECMO support (34%), kidney, or liver function between groups. Initial device was paracorporeal pulsatile for 63.6% of DCM patients, 51.7% of BiV patients, and 44.5% of SV patients, with the remainder receiving paracorporeal continuous flow devices. Median time on device was 46 days (range 13-98). Among the entire cohort, 49.6% were transplanted, 11.2% recovered, 10.4% remained on device, and 28% died. When stratified by primary diagnosis, mortality was higher among infants with CHD than DCM (33.3% SV, 37.9% BiV, 9.1% DCM, p=0.02). Neurologic dysfunction occurred in 24% (17.6% having ischemic stroke), major infection in 30.4%, and major bleeding in 18.4%, with no differences in complication rates between groups. Anticoagulation and antiplatelet therapy were predominantly bivalirudin (94%) and aspirin (77%).

Conclusion Small infants < 5 kg with DCM have good survival outcomes with VAD support in the current era, while small infants with CHD continue to face higher risk of mortality. This difference in survival was noted despite similar illness severity prior to implant.

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