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26-A-20753-ACC CARDIAC REHABILATION AFTER IMPLANTATION OF LEFT VENTRICULAR ASSIST DEVICES: A PROPENSITY SCORE MATCHED ANALYSIS

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POSTER CONTRIBUTIONS

26-A-20738-ACC

PERI-PROCEDURAL VS NON-PERI-PROCEDURAL VA-ECMO IN THE OPERATING ROOM AND CATHETERIZATION LABORATORY: AN ELSO REGISTRY ANALYSIS

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BACKGROUND VA-ECMO is expanding across diverse clinical environments. Differences between ECMO utilization in peri-procedural and non-peri-procedural settings in the operating room (OR) or catheterization laboratory (Cath Lab) and their impact on outcomes remain unclear.

METHODS Adult patients (>18 years) in the Extracorporeal Life Support Organization (ELSO) Registry from 2018-2022 who received VA-ECMO in the OR or Cath Lab were included. Patients were stratified by peri-procedural status. Baseline characteristics, support indication, discontinuation outcomes, survival, and complications were compared using chi-square tests, ANOVA, and effect size measures.

RESULTS Of 1,444 OR/Cath Lab cases, 193 (13.4%) were peri-procedural and 1,250 (86.6%) were non-peri. Baseline characteristics support indication differed ($p=0.031$) with peri-procedural cases were more likely to be extracorporeal cardiopulmonary resuscitation (ECPR) (40.9% vs 31.7%), and less likely for cardiogenic shock (59.1% vs 68.3%). Age, initiation pH, blood pressure and cardiac index were similar for both groups. Hours on ECMO were significantly lower for peri-procedural cases 45.9 vs 119.3 ($p<0.01$).Between 2018 and 2022, there was no change in the distribution of cases performed for peri-procedural indications ($p=0.46$). Discontinuation reasons were similar ($p=0.6$): periprocedural and nonprocedural cases had 50.3% and 51.2% discontinuations for death/poor prognosis respectively, and 46.1% vs. 38.7% decannulations for expected recovery respectively. The proportion discharged alive was similar in both groups at 39.9% vs 35.8% ($p=0.42$).

CONCLUSION Peri-procedural VA-ECMO represents a distinct subgroup characterized by distinct physiologic profile and shorter ECLS duration. Survival to discharge was similar for both peri-procedural and non-periprocedural cases.

POSTER CONTRIBUTIONS

26-A-20753-ACC

CARDIAC REHABILATION AFTER IMPLANTATION OF LEFT VENTRICULAR ASSIST DEVICES: A PROPENSITY SCORE MATCHED ANALYSIS

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BACKGROUND Left ventricular assist devices (LVADs) provide mechanical support for end-stage heart failure. The incorporation of cardiac rehabilitation (CR) after LVAD implantation may enhance survival. This study aimed to address the benefits of CR after LVAD during a 5-year follow-up.

METHODS Using the TriNetX Global Collaborative Network of 161 healthcare organizations, 39,011 patients aged ≥45 years with implanted LVADs were identified, excluding pregnant females. Patients were divided into two cohorts: those who initiated CR within 6 months after LVAD implantation (n=3,434) and non-CR cohort (n=35,577). After propensity score matching for demographics and comorbidities, each cohort included 3,433 patients. The primary outcomes were mortality and left ventricular ejection fraction (LVEF). Secondary outcomes were right ventricular failure (RVF), stroke, and infection.

RESULTS CR participants had a significantly lower risk of mortality (HR: 0.481, 95% CI: 0.433-0.533, $p<0.001$) at 5 years. LVEF improved in the CR group (RD: 0.017, 95% CI: 0.002-0.032, $p=0.025$). No statistically significant differences in incidence of RVF or stroke (RD: 0.008, 95% CI: -0.004-0.021, $p=0.195$), (RD: 0.014, 95% CI: 0.000-0.028, $p=0.057$), respectively. Conversely, infections were more frequent among CR patients (RD: 0.018, 95% CI: 0.004-0.032, $p=0.013$).

CONCLUSION CR after LVAD implantation significantly improves survival and LVEF without increasing the risk of major complications. However, risk of infections is higher in CR.

POSTER CONTRIBUTIONS

26-A-21342-ACC

CONCOMITANT LEFT ATRIAL APPENDAGE OCCLUSION DURING LVAD IMPLANTATION AND RISK OF THROMBOEMBOLISM: A SYSTEMATIC REVIEW AND META-ANALYSIS

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BACKGROUND Patients with left ventricular assist devices (LVADs) remain at high risk of thromboembolic events despite anticoagulation. Left atrial appendage occlusion (LAAO) has been proposed as a preventive strategy, but its role in LVAD recipients is not well defined

METHODS We conducted a systematic review and meta-analysis following PRISMA 2020 guidelines. PubMed, Embase, Scopus, and Cochrane CENTRAL were searched through September 2025 for comparative studies of LVAD recipients with versus without LAAO. Random-effects models were used to pool odds ratios (ORs) with 95% confidence intervals (CIs)

RESULTS Four retrospective cohorts encompassing 594 patients (312 with LAAO, 282 without) were identified. Three studies ($n = 459$) provided arm-level data for pooling. Over a median follow-up of 18 months, LAAO was associated with a lower risk of thromboembolic or ischemic stroke (pooled OR 0.34; 95% CI 0.17-0.69; $p = 0.002$). Stroke rates were 5.6% with LAAO versus 15.2% without. No significant differences were observed in perioperative mortality (OR 0.91; 95% CI 0.47-1.78) or major bleeding (OR 1.12; 95% CI 0.63-1.98), although reporting was incomplete. Risk of bias was low to moderate, primarily due to confounding and small sample sizes

CONCLUSION Concomitant LAAO during LVAD implantation is associated with reduced thromboembolic events without increasing perioperative mortality or bleeding. These findings support prospective evaluation of LAAO as a stroke-prevention strategy in advanced HF populations.

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