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Quality of Care and Outcomes Assessment

RISK ASSESSMENT AND VALIDATION OF DESTINATION THERAPY RISK SCORE (DTRS) IN RECIPIENTS OF CONTINUOUS FLOW LEFT VENTRICULAR ASSIST DEVICES (LVADS) AT A SINGLE CENTER

ACC Moderated Poster Contributions
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Background: DTRS was developed to predict risk of in-hospital 90-day mortality in DT pts with pulsatile flow LVADs. Discrimination of operative mortality with DTRS in BTT and DT pts with continuous flow LVADs (CF-LVADs) is unclear (c-statistics 0.54-0.59). We reinvestigated its applicability to the CF-LVADs at our center.

Methods: Charts for 88 pts with CF-LVADs from 2007-2011 were reviewed. DTRS was calculated for 76 pts and Z score was used to assess difference between the DTRS predicted and actuarial survival rate.

Results: Mean age was 59 yrs with 77% men, 58% ischemic, and mean LVEF of 16% in 23 DT, 58 BTT and 7 BTD LVADs. Overall 30-day survival was 92% with 14 deaths occurring prior to hospital discharge. One-year survival, censored for transplant (n=34) or explant (n=2) was 55%. A medium DTRS overestimated the risk of mortality at hospital discharge, whereas a very high score overestimated mortality at both discharge and 90 days. Univariate predictors of 90-day mortality included need for dialysis (p=0.002), no admission ACEI/ARBs (p=0.04) and DTRS (p=0.04). By multivariate analysis, DTRS was an independent predictor of 90-day mortality (p=0.01), though interpretation is limited by low event rate (n=14).

DTRS	N	% Probability survival to hospital discharge			% Probability 90 day survival		
		Predicted	Observed	P value	Predicted	Observed	P value
Low (0-8)	19	87.5	89.5	0.87	93.7	89.5	0.91
Medium (9-16)	37	70.5	91.9	0.02*	86.5	89.1	0.90
Very high (>19)	17	13.7	82.3	<0.001*	17.9	76.4	0.002*

(n=3 for 'high' score, not statistically significant)

Conclusion: Low to medium DTRS appeared to be helpful in predicting 90 day survival. However, very high scores failed to adequately predict survival in the contemporary LVADs. Risk prediction models derived from the current era of CF- LVADs are needed.