🜄 MYOCARDIAL ISCHEMIA AND INFARCTION

ACUTE HEMODYNAMIC CHANGES FOLLOWING PLACEMENT OF TANDEMHEART PERCUTANEOUS VENTRICULAR ASSIST DEVICE FOR REFRACTORY CARDIOGENIC SHOCK

ACC Poster Contributions

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Background: TandemHeart® Percutaneous Ventricular Assist Device (pVAD) can be used for hemodynamic support of patients with cardiogenic shock (CS) until cardiac recovery occurs or as a bridge to a surgical VAD or cardiac transplant.

Methods: Consecutive patients who underwent TandemHeart® pVAD placement for CS were prospectively followed for improvement in hemodynamic variables. Right heart catheter measurements were recorded and values before and 24-hours after pVAD insertion were compared. The primary endpoint was myocardial recovery, survival to surgical VAD or transplant.

Results: Among the 37 patients included in this study, 16 (43%) had myocardial recovery, 6 (16%) proceeded to a surgical VAD and 1 patient was transplanted. Hemodynamic variables at baseline and 24-hours following pVAD insertion are reported in Table1. Compared to baseline, the cardiac output and cardiac index increased while mean pulmonary capillary wedge pressure, right atrial pressure, and pulmonary arterial pressure decreased at 24-hours. A greater percent change (% Change in Table 1) was observed in patients who had myocardial recovery or survived to surgical VAD or transplant when compared to patients who had no myocardial recovery.

Conclusion: In this single-center experience, hemodynamic parameters improved 24-hours following TandemHeart® pVAD insertion in all patients but improved to a greater extent in patients who had myocardial recovery compared to those who did not.

Hemodynamic parameters pre- and 24-hours post- TandemHeart® pVADTM insertion								
	Myocardial Recovery* (n=23)				No Myocardial Recovery (n=14)			
Hemodynamic Parameters	Baseline	24-hours	p-value	% Change	Baseline	24-hours	p-value	% Change
RA Mean (mmHg)	18±6	12±4	0.025	-33.3	16±5	13±2	0.034	-18.8
PA Mean (mmHg)	33±8	26±4	0.008	-21.2	30±6	25±4	0.025	-16.7
PCWP (mmHg)	24±8	17±5	0.004	-29.2	20±6	13±2	0.066	-35
CO (L/min)	3.43±1.31	6.07±2.11	0.003	77	3.18±1.66	5.12±1.64	0.058	61
CI (L/min/m2)	1.61±0.72	3.44±1.15	0.018	113.7	1.85±0.76	2.68±0.80	0.285	44.9
SVR (dynes/s·cm-5)	1454±693	1135±535	0.139	-21.9	1374±794	1180±795	0.144	-14.1
PVR (dynes/s·cm-5)	285±192	188±195	0.600	-27.1	231±159	171±53	0.655	-26

RA, right atrial; PA, pulmonary artery; PCWP, pulmonary capillary wedge pressure;
CO, cardiac output; CI, cardiac index; SVR, systemic vascular resistance; PVR, pulmonary vascular resistance.
*Includes those patients who proceeded to surgical VAD and transplant