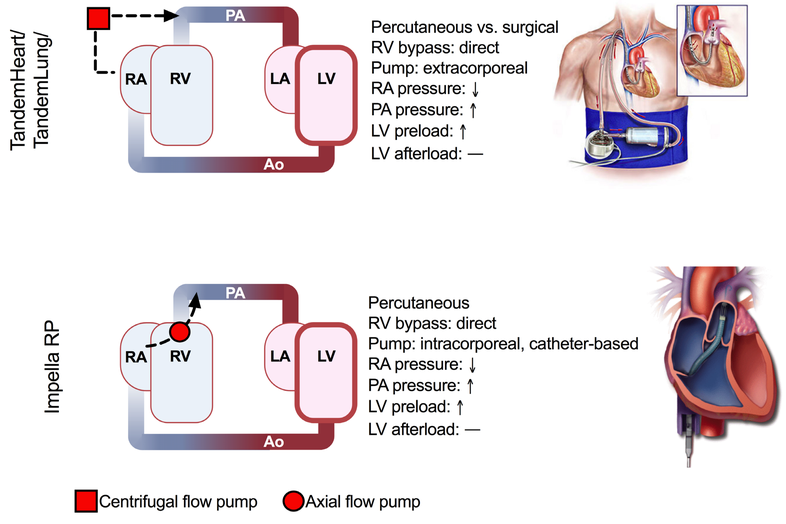
Contemporary Outcomes Of Percutaneous Right Ventricular Support In A Heterogeneous Right Ventricular Failure Cohort

Ramzy D, Akhmerov A, Aguillon M, Runyan C, Esmailian F, Trento A
Department of Cardiac Surgery, Smidt Heart Institute, Cedars-Sinai Medical Center

Right ventricular failure occurs in a variety of clinical settings and is associated with worse survival. We describe our clinical experience with two temporary percutaneous right ventricular assist devices (RVADs): TandemLife Protek Duo (TPD) and Impella RP.



Akhmerov and Ramzy. *Interv Cardiol Clin*. 2021 Apr;10(2):185-194.

Methods

A prospectively maintained institutional registry was used to identify patients requiring TPD and Impella RP support. Baseline characteristics, etiology of heart failure, indication for RVAD support, timing of implantation in relation to the onset of right ventricular (RV) failure were characterized. Specific clinical outcomes, including overall survival, time on temporary percutaneous RV support, device explant and device exchange rates were analyzed. Outcomes were further analyzed among the cohort of explanted patients.

Results

Between January 2015 and December 2020, 20 TPD devices and 16 Impella RP devices were implanted. Indication for RV support included post-left ventricular assist device implantation RV failure, post-cardiotomy cardiogenic shock, and post-transplant RV failure. Mean (median) support duration for TPD was 16(13) days, and 6(5) days for Impella RP. Among TPD patients, 12(60%) were explanted, 4(20%) died, and there were no device exchanges. Among Impella RP patients, 8(50%) were explanted, 6(37.5%)died, and 1 (6.3%) required device exchange. Among TPD patients explanted 8(66.7%) recovered and were weaned, 3 (25%) died, and 1 (8.3%) required a durable RVAD. Among Impella RP patients explanted, 7 (87.5%) recovered and were weaned, and 1 (12.5%) required a durable RVAD.

	TandemHeart N= 20	Impella RP N= 16
Explanted	12(60.0)	8(50.0)
Bridged to durable MCS	2(10)	1(6.3)
Transplanted	2(10)	0 (0.0)
Exchanged	0 (0.0)	1(6.3)
Expired	4(20)	6(37.4)
Explanted outcomes		
Recovered	8 (66.7)	7 (87.5)
MCS	1 (8.3)	1 (12.5)
Expired	3 (25)	0 (0.0)
Duration (days)		
Mean	16	6
Median	13	5
Min	1	0
Max	48	15