



## CARDIAC ARRHYTHMIAS

### INCIDENCE AND PREDICTORS OF IMPLANTABLE CARDIOVERTER-DEFIBRILLATOR THERAPIES IN AMBULATORY PATIENTS WITH VENTRICULAR ASSIST DEVICES

ACC Poster Contributions

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**Background:** Limited information is available regarding ventricular arrhythmias in patients (pts) with ventricular assist devices (VAD).

**Methods:** Thirty ambulatory pts with VAD's were studied and the incidence and predictors of implantable cardioverter-defibrillator therapies (ICD) were determined.

**Results:** Mean age was  $55 \pm 13$  years, 90% were men, 87% of the VAD's were implanted as a bridge to transplant and 90% of the ICDs (14 biventricular, 7 dual chamber, 9 single chamber) were implanted for primary prevention. In 6 pts, ICD was implanted after VAD implant. Thirteen pts (43%) had received an appropriate ICD therapy prior to VAD implant. During 377 days  $\pm 245$  days, 10 pts (33%) received an appropriate ICD therapy (7 episodes of VT, 3 episodes of VF) and 2 pts received inappropriate shocks for atrial fibrillation. Post-VAD implant, 2 LV leads were turned off due to diaphragmatic stimulation 1 was turned off due to noncapture. One pt required an ICD lead revision due to a Fidelis lead fracture and 1 pt required a subcutaneous coil implant for elevated defibrillation threshold. One pt suffered a cardiac arrest despite having an ICD and required external defibrillation for VF. Independent predictors of appropriate ICD therapy included the presence of pre-VAD ventricular arrhythmias (odds ratio 3.7, p-value 0.05) and presence of ischemic cardiomyopathy (odds ratio 3.6, p-value 0.05).

**Conclusion:** Ambulatory pts with VADs who have ICM and prior ventricular arrhythmias are at higher risk of receiving ICD therapy.

Variable	Total (n=30)	ICD therapy (n=10)	No ICD therapy (n=20)	p-value
Age, years $\pm$ standard deviation (SD)	55 $\pm$ 13	59 $\pm$ 11	54 $\pm$ 14	NS
Ischemic cardiomyopathy, n (%)	19 (63%)	9 (90%)	10 (50%)	0.03
Hypertension, n (%)	17 (57%)	6 (66%)	11 (55%)	NS
Diabetes, n (%)	11 (37%)	5 (5%)	6 (30%)	NS
Left ventricular ejection fraction, % $\pm$ SD	16 $\pm$ 9	14 $\pm$ 6	17 $\pm$ 11	NS
Left ventricular end diastolic dimension, cm	7.0 $\pm$ 1.5	7.1 $\pm$ 1.0	7.0 $\pm$ 1.6	NS
Beta-blocker use	29 (97%)	10 (100%)	19 (95%)	NS
Statin use	21 (70%)	8 (80%)	13 (65%)	NS
ACE-I/ARB use	23 (77%)	8 (80%)	15 (75%)	NS

Table: Demographics.