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BURDEN OF ATRIAL FIBRILLATION AND POOR RATE CONTROL DETECTED BY CONTINUOUS MONITORING VIA IMPLANTED DEVICES IDENTIFIES WHEN A PATIENT IS AT RISK FOR HEART FAILURE HOSPITALIZATION

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Monday, April 04, 2011, 9:30 a.m.-10:45 a.m.

Session Title: Heart Failure and Atrial Tachyarrhythmia in ICD Recipients

Abstract Category: 29. Defibrillation/Implantable Antiarrhythmia Devices

Session-Poster Board Number: 1090-390

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Background: Atrial Fibrillation (AF) has been identified as a contributing factor to hospitalizations in pts with heart failure (HF). We investigated whether continuous AF diagnostic capabilities can identify when pts are at risk for HF Hospitalization (HFH).

Methods: We retrospectively combined 4 studies that enrolled HF pts with CRT-D devices (n=1561). Pts were identified as having AF if they had at least 5min AF burden on any day and >1hr total AF burden over the entire follow up. Every month, AF burden and AF V-rate in the last 30 days were evaluated as predictors of HFH for the following 30 days. AF patients were divided into subgroups based on the AF burden and mean V-rates (figure). Each category of AF was compared to pts with no AF using a Cox regression model. HFH were adjudicated for signs, symptoms, and treatment of HF.

Results: Pts with AF (n=519, 33%) have a greater risk for impending HFH. Within pts with paroxysmal AF, HFH risk increased with the amount of AF burden (2.0 to 3.33 times). Further, AF>6hrs combined with 1 day of AF V-rate>90bpm increased that risk to 5.7-5.9 times. Interestingly, persistent AF at all times does not increase the risk unless it is associated with poor rate control (HR: 5.96).

Conclusions: Paroxysmal AF over 30 days is a risk factor for HF events in the subsequent 30 days. The risk increases with higher burden of paroxysmal AF, particularly in conjunction with poor rate control. Continuous long term remote monitoring of AF to identify patients at increased risk of HF holds promise.

