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Non Invasive Imaging

THE PRESENCE OF DIABETES DOES NOT AFFECT THE PROGNOSTIC UTILITY OF CARDIAC 123-I-MIBG IMAGING IN HEART FAILURE PATIENTS EVALUATED FOR PRIMARY PREVENTION IMPANTABLE CARDIOVERTER-DEFIBRILLATOR

Poster Contributions

Hall C

Sunday, March 30, 2014, 9:45 a.m.-10:30 a.m.

Session Title: SPECT Imaging: Focus on Vasodilators, Interpretation and Newer Applications

Abstract Category: 16. Non Invasive Imaging: Nuclear

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Background: Imaging the cardiac nervous system in heart failure (HF) with 123-I metaiodobenzylguanidine (MIBG) has emerged as a new prognostic tool in patients evaluated for cardiac defibrillator. Diabetic (DM) patients with HF show lower cardiac sympathetic activity than non-DM. Therefore we assess whether the presence of DM influence the prognostic utility of cardiac MIBG imaging in this scenario.

Methods: Seventy-eight patients with HF and severe left ventricular dysfunction undergoing evaluation for ICD implantation were prospectively enrolled. Cardiac 123I-MIBG imaging with calculation of early and late heart to mediastinum (H/M) ratios and cardiac washout rate to assess cardiac innervation was performed. The primary endpoint was death, HF hospitalizations, appropriate ICD discharge or symptomatic ventricular tachycardia. The secondary endpoint was death and arrhythmic events.

Results: During a mean follow-up of 19.5 months, 24 and 16 patients reached the primary and secondary endpoint, respectively. DM and non-DM patients with late H/M ratio ≤ 1.30 showed significantly more cardiac events. In multivariate Cox proportional hazards analysis, late H/M ratio ≤ 1.30 was an independent predictor of primary (HR 5.82; 95% IC: 2.21-15.30; $p < 0.001$) and secondary endpoint (HR 6.48; 95% IC: 1.98-21.18; $p = 0.002$).

Conclusion: Late H/M ratio ≤ 1.30 was a predictor of cardiac and arrhythmic events in both DM and non-DM patients with severe HF evaluated for primary prevention ICD implantation.

