



Arrhythmias and Clinical EP

CARDIAC MAGNETIC RESONANCE COMBINED WITH CARDIAC 123I-MIBG IMAGING IDENTIFIES A VERY LOW RISK PATIENTS EVALUATED FOR CARDIAC DEFIBRILLATOR IMPLANTATION

Moderated Poster Contributions

Hall C

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Background: Identification of non-invasive markers of arrhythmic risk in patients with heart failure and left ventricular systolic dysfunction (LVSD) remains challenging. We tested whether a myocardial scarring by cardiac magnetic resonance imaging (MRI) combined with cardiac sympathetic denervation by 123-iodine metaiodo benzylguanidine (123I-MIBG) imaging would improve risk stratification in patients evaluated for implantable cardioverter defibrillator (ICD).

Methods: Sixty-six patients with heart failure and severe LVSD undergoing evaluation for ICD implantation were prospectively enrolled. Cardiac MRI to assess late gadolinium enhancement (LGE) and 123I-MIBG imaging with calculation of early and late heart to mediastinum (H/M) ratios and cardiac washout rate to assess cardiac innervation were performed. The primary endpoint (PE) was death, appropriate ICD discharge or symptomatic ventricular tachycardia.

Results: during a mean follow-up of 16 months the PE occurred in 11 patients. Late H/M ratio ≤ 1.30 (sensitivity 87.5%; specificity 65.5%) was an independent predictor for PE (HR 9.69; IC95% 2.08-45.09, $p=0.004$). Patients with LGE and late H/M ratio ≤ 1.30 showed significantly more arrhythmic events and death ($p=0.042$). No patient without LGE and late H/M ratio > 1.30 suffered a cardiac event (Figure).

Conclusion: The combination of absence of LGE with late H/M ratio > 1.30 identified a subgroup of primary prevention ICD candidates with a very low risk for arrhythmic events.

