Young Investigator Award

Topic: 3. Heart Failure and Cardiomyopathy

Cardiac Resynchronization is Associated with Reduction in the Rate of ICD Therapies, While Improves Ventricular Function

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Background

Once ICD has been implanted, device therapies worsen prognosis.

Hypothesis

CRT-D may reduce number of first appropriate ICD therapy, and independent factors can be identified.

Methods

175 consecutive patients (age 64.6 ± 10.4 years, 23 [13.1 %] women), left ventricular ejection fraction (LVEF) 27.9 ± 7.6 % (range 10-50 %), 97 of ischemic origin, were treated, according to standard indications, with an ICD (in 80 cases the device was CRT-D) and followed-up during 2.5 ± 1.5 years. Devices were placed for either primary (n=95) or secondary prevention (n=80).

Results

44 (25.1 %) patients received at least one appropriate therapy, 11.55 (8.57-15.57) per 100 patient-years. In the multivariable analysis, indication for secondary prevention was associated with a higher risk of first appropriate therapy (HR 3.42 [1.36-8.57] $p=0.009$), and CRT-D was associated to a lower risk of first therapy (0.31 [0.11-0.88] $p=0.027$). This reduction was present across all subgroups, even in patients in primary prevention ($p=0.05$), and although patients treated with CRT-D had significant lower ejection fraction and poorer NYHA class than their counterparts. In the follow-up, LVEF in

patients with CRT-D improved from 25.3 % (5.6) to 37.0 % (5.6) ($p=0.001$). There were no differences in mortality in patients with and without CRT.

Conclusion

Although patients receiving CRT-D have a worse clinical profile, they receive less device therapies in comparison to those receiving an ICD; this reduction is associated with significant improvement in LV function. ■

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