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OBJECTIVE

Ischemic cardiomyopathy (ICM) and dilated non-ischemic cardiomyopathy (NICM) are the two main entities that established the use of implantable-cardioverter-defibrillators (ICDs). Little is known regarding outcomes of patients with ICM vs NIDCM after the ICD implantation.

METHOD

Data from the ICD registry of the Cardiology Department of the University Hospital of Heraklion, Crete, were analyzed. The registry encompasses data from 1993 to present day. All patients that receive an ICD for primary or secondary prevention on the island of Crete are registered. We retrospectively compared the two main subgroups of patients, those with ICM to NIDCM regarding appropriate therapies from the ICD (anti-tachycardia pacing or shock) during a mean follow up period of over 15 years.

RESULTS

A total of 1582 patients were included in the analysis. Of them,1064 patients suffered from ICM and 518 patients from NIDCM. The majority of the patients were male (91%). In the whole cohort, 1265 patients received an ICD for primary prevention and 317 patients for secondary prevention. In 77.3% of the patients an electrophysiological study (EPS) to induce ventricular arrhythmias (VA) was conducted. In 45.6% of patients a sustained VA was induced. Regarding the risk of receiving an appropriate therapy, the odds ratio (OR) of ICM vs NIDCM patients was 1.23 [Confidence interval (CI) 95% 0.98-1.55]. Similarly, the OR in primary prevention ICM patients vs NIDCM was 1.18 (CI 95% 0.917-1.56) and in patients with inducible VA during EPS 1.1, respectively. Conversely, in secondary prevention patients the OR was 1.8 (CI 95% 1.09-2.98), reaching statistical significance.

CONCLUSIONS

In secondary prevention ICD recipients the risk of malignant arrhythmias is substantially higher in the NIDCM subgroup vs ICM. A possible genetic background giving rise to more wild phenotypes in NIDCM patients in accordance with the evolving nature of the arrhythmogenic substrate in NIDCM seem to play a significant role.

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INFORMATION

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