Abstract: P406

Primary prevention of implantable cardioverter-defibrillator in systolic heart failure: result of Korean multicenter study

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Topic(s):
Implantable Cardioverter Defibrillator (ICD)

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Background The benefit of implantable cardioverter-defibrillator (ICD) has been well documented in systolic heart failure from randomized trials, however, real world data of efficacy of ICD in Asian heart failure patients is very limited.

Purpose We investigated efficacy of primary prevention ICD using a large multicenter Korean registry cohort.

Methods Retrospective multicenter study was performed in 15 Korean hospitals. A total of 568 patients with systolic heart failure (LVEF = 35%) who referred for ICD for primary prevention during Jan 2012- Dec 2016 were enrolled. Efficacy of ICD was compared to propensity matched control group from Korean Acute Heart Failure (KorAHF) registry (n=1406). All-cause mortality were compared between 216 patients from ICD group and corresponding propensity matched control group (n=216). All-cause mortality and incidence of appropriate shock and inappropriate shock were compared between ischemic vs. non-ischemic cardiomyopathy patients in ICD group.

Results During follow up durations of 35.1 ± 19.6 months, 39 patients died in ICD group. Mean age of ICD group was 65 year old and 67% were men. In ICD group, 195 (34%) were ischemic cardiomyopathy. In ICD group, all-cause mortality did not differ between ischemic and non-ischemic cardiomyopathy, however, incidence of appropriate shock was significantly higher in non-ischemic cardiomyopathy (HR: 1.58, 95% CI: 1.022-2.436, p=0.038) (Figure 1). Appropriate shock-free survival started to show difference after 40 months of follow up. All-cause mortality was significantly lower in ICD group compared to propensity matched control group (HR:0.357, 95% CI: 0.233-0.547, p<0.001) (Figure 2).

Conclusion From our multi-center real-world data, ICD for primary prevention in Korean systolic heart failure patients showed significant benefit over mortality. Although overall survival did not differ between ischemic and non-ischemic patients were similar, appropriate therapy was significantly higher in non-ischemic cardiomyopathy, reflecting delayed benefit of ICD in non-ischemic cardiomyopathy patients.
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