Sex Differences in Implantable Cardioverter Defibrillator (ICD): Implantation Indications and Outcomes. Lessons from the National Israeli-ICD Registry

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Background:

Currently the benefits of ICDs in women is still debatable, partly because of their low representation rates in clinical trials. Thus, there is an urgent need to further elucidate clinical outcomes and ICD usage among women.

Methods:

From 7/2010 to 6/2012, 2811 consecutive patients undergoing ICD implantation were prospectively enrolled in the Israeli ICD Registry. An unselected subset of 1148 was prospectively followed up over a median period of 317 days. In this analysis we analyze gender differences in baseline demographic and clinical variables, as well as follow up data.

Results:

Among the registry patients, 485 (17%) were woman. women had a higher prevalence of non-ischemic cardiomyopathy (53% vs. 20%, p<0.01) and a lower rate of atherosclerosis risk factors, and beta blockers use (77% vs. 83%, p<0.01). Women had a higher rate of advanced heart failure at implantations (NYHA>II; 56% vs. 45%, p=<0.01), a wider QRS (122$\pm$32 ms vs. 118$\pm$30 ms, p=0.02), and were more likely to receive CRT-D devices than men (OR=2.4, 95%CI=1.5-4.0). Although the overall rate of secondary prevention indication was similar, resuscitated VF (vs. sustained VT/unknown) as an implantation indication was more prevalent among women (40% vs. 31%, p=0.04). During follow up and using multivariate analysis, gender did not predict death, inappropriate or appropriate ICD therapy, or heart failure events.

Conclusions:

There are significant gender differences in baseline characteristics pointing to differences in heart disease substrate. These baseline differences did not translate into different outcomes.