

Implantable defibrillators may not benefit women with heart failure

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Implantable cardioverter-defibrillators do not appear to be associated with a reduced risk of death in women with advanced heart failure, according to a meta-analysis of previously published research in the September 14 issue of *Archives of Internal Medicine*.

Heart failure affects about 5.3 million Americans, almost half of them women, according to background information in the article. Patients with heart failure are six to nine times more likely than the general population to experience sudden cardiac death. In addition to medication, treatment for heart failure involves preventing sudden cardiac death through the implantation of a cardioverter-defibrillator. This therapy is supported by numerous clinical trials, the authors note. However, questions remain regarding the benefits in certain patient subgroups, including women.

Hamid Ghanbari, M.D., and colleagues at Providence Hospital Heart Institute and Medical Center, Southfield, Mich., searched for randomized clinical trials of implantable defibrillator therapy for heart failure patients published between 1950 and 2008 that included data on the risk of death for female patients. Five eligible trials that included 934 women were identified.

None of the five trials demonstrated a significant benefit of defibrillator implantation over medical therapy for women. When the researchers pooled the data and performed a meta-analysis, the implantable cardioverter-defibrillator was not associated with decreased all-cause

mortality in women. Among the 3,810 men in the studies, however, a statistically significant decrease in death rate was found in each of the five trials alone and in the combined meta-analysis.

There are several possible reasons for the sex differences in these results, the authors note. Among patients with heart disease, women have about one-fourth the risk of sudden cardiac death as men. This may be because women have different patterns of arrhythmias and also because they have more co-occurring illnesses that may increase their risk of death from other causes. Therefore, a larger study population may be needed to show any benefit of defibrillator implantation in women.

"Most clinical trials have been heavily weighted toward men; therefore, generalization of the results to women remains questionable. The best answer to this problem would be to perform a clinical trial that specifically targets women with [heart failure](#) to test the hypothesis of whether implantable cardioverter-defibrillator implantation reduces their overall mortality [death] rate," the authors write. Because clinical guidelines already recommend defibrillator treatment to prevent [sudden cardiac death](#), such a trial may be difficult to propose, they note.

"However, on the basis of our findings it seems that a trial targeting [women](#) is needed, and a meta-analysis such as ours may be an appropriate first step to explore this hypothesis."

More information: *Arch Intern Med.* 2009;169[16]:1500-1506.

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