Public release date: 6-Mar-2007

Contact: Marla Paul
312-503-8928
JAMA and Archives Journals

Both minor and major ECG abnormalities linked with increased risk of cardiovascular events in women

Postmenopausal women without symptoms of cardiovascular problems who have minor or major abnormalities on an electrocardiogram are at increased risk for future cardiovascular events and death, according to a study in the March 7 issue of JAMA.

Resting 12-lead electrocardiogram (ECG) abnormalities are independently associated with incident coronary heart disease (CHD) and cardiovascular disease (CVD) events. Many prior studies included only men or compared men and women but the women were not selected for age or the presence or absence of underlying heart disease, according to background information in the article. Data are sparse regarding the prevalence, incidence, and independent prognostic value of minor and/or major electrocardiographic abnormalities in asymptomatic postmenopausal women. There is no information on the effect, if any, of hormonal treatment on the prognostic value of the ECG.

Pablo Denes, M.D., of the Feinberg School of Medicine, Northwestern University, Chicago, and colleagues conducted a study to examine the association of baseline and new ECG findings with CHD and CVD outcomes in the placebo and hormonal treatment groups of the Women's Health Initiative (WHI) estrogen plus progestin trial. This portion of the trial, which was stopped in July 2002, examined whether in healthy postmenopausal women this combination would reduce CHD and CVD events. The trial found that there was a significant increase in CHD rates among women taking hormone therapy compared with the placebo group.

The sample analyzed included 14,749 postmenopausal asymptomatic women with intact uterus who received 1 daily tablet containing 0.625 mg of oral conjugated equine estrogen and 2.5 mg of medroxyprogesterone acetate or a matching placebo. Participants were enrolled from 1993 to 1998.

The researchers found that among women with absent (n = 9,744), minor (n = 4,095), and major (n = 910) ECG abnormalities, there were 118, 91, and 37 incident CHD events, respectively. The incident annual CHD event rates per 10,000 women with absent, minor, or

major ECG abnormalities were 21, 40, and 75, respectively. After 3 years of follow-up, 5 percent of women who had normal ECG at baseline developed new ECG abnormalities with an annual CHD event rate of 85 per 10,000 women. There were no significant interactions between hormone treatment assignment and ECG abnormalities for risk prediction of cardiovascular end points.

"In a large cohort of postmenopausal, asymptomatic women who were without a history of prior CVD and participating in the estrogen plus progestin group of the WHI trial, we found that minor and major baseline ECG abnormalities were associated with significantly increased risks for CHD and CVD events, independent of established risk factors and hormone treatment," the authors write.

"Given the low cost, wide availability, and ease of interpretation, the ECG may be a useful tool for assisting in the prediction of future cardiovascular events in asymptomatic postmenopausal women. The presence of ECG abnormalities should prompt physicians to consider further risk stratification, more intensive therapeutic interventions, or both on modifiable risk factors for primary prevention of cardiovascular events."

###

(JAMA. 2007;297:978-985. Available pre-embargo to the media at www.jamamedia.org)

Editor's Note: The Women's Health Initiative program was funded by the National Heart, Lung, and Blood Institute of the National Institutes of Health, U.S. Department of Health and Human Services. Please see the article for additional information, including other authors, author contributions and affiliations, financial disclosures, funding and support, etc.

For More Information: Contact the JAMA/Archives Media Relations Department at 312-464-JAMA or email: mediarelations@jama-archives.org.