Early-onset menopause associated with increased risk of coronary heart disease, CVD mortality, all-cause mortality

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In a study published online by *JAMA Cardiology*, Taulant Muka, M.D., Ph.D., of Erasmus University Medical Center, Rotterdam, the Netherlands, and colleagues evaluated the effect of age at onset of menopause and duration since onset of menopause on certain cardiovascular disease (CVD) outcomes and all-cause mortality.

As many as 10 percent of women experience natural menopause by the age of 45 years. If confirmed, an increased risk of CVD and all-cause mortality associated with premature and early-onset menopause could be an important factor affecting risk of disease and mortality among middle-aged and older women. To examine this issue, the researchers conducted a systematic review and meta-analysis of 32 studies (310,329 women) that met criteria for inclusion in the study.

Outcomes were compared between women who experienced menopause younger than 45 years and women 45 years or older at onset. The researchers found that overall, women who experienced premature or early-onset menopause appeared to have a greater risk of coronary heart disease (CHD), CVD mortality, and all-cause mortality but no association with stroke risk. Women between 50 and 54 years at onset of menopause had a decreased risk of fatal CHD compared with women younger than 50 years at onset.

Time since onset of menopause in relation to risk of developing

intermediate cardiovascular traits or CVD outcomes was reported in 4 observational studies with inconsistent results.

"The findings of this review indicate a higher risk of CHD, cardiovascular mortality, and overall mortality in women who experience premature or early-onset menopause when younger than 45 years. However, this review also highlights important gaps in the existing literature and calls for further research to reliably establish whether cardiovascular risk varies in relation to the time since onset of menopause and the mechanisms leading early menopause to cardiovascular outcomes and mortality," the authors write.

Early menopause serves as a sentinel for elevated CVD risk, write JoAnn E. Manson, M.D., Dr.P.H., of Brigham and Women's Hospital, Harvard Medical School, Boston, and Teresa K. Woodruff, Ph.D., of Northwestern University, Chicago, in an accompanying commentary.

"The recognition that women with early reproductive decline constitute a population at increased vascular risk provides important opportunities for early intervention in terms of both risk factor modification and, when appropriate, hormonal treatment. Although additional research is needed to clarify the complex associations between accelerated reproductive aging and vascular health, applying current knowledge will help to reduce cardiovascular events in this high-risk patient population."

More information: JoAnn E. Manson et al. Reproductive Health as a Marker of Subsequent Cardiovascular Disease, *JAMA Cardiology* (2016). DOI: 10.1001/jamacardio.2016.2662 Elizabeth McNally.

Reproductive Aging and Cardiovascular Disease Risk, *JAMA Cardiology* (2016). DOI: 10.1001/jamacardio.2016.2638

Taulant Muka et al. Association of Age at Onset of Menopause and

Time Since Onset of Menopause With Cardiovascular Outcomes, Intermediate Vascular Traits, and All-Cause Mortality, *JAMA Cardiology* (2016). DOI: 10.1001/jamacardio.2016.2415