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Menstrual Cycle Length During Menopause Transition May Predict Future Vascular Problems

New study based on SWAN data suggests that how a woman's menstrual cycle changes while she's transitioning through menopause may help identify her risk of atherosclerosis after menopause

CLEVELAND, Ohio (Oct. 13, 2021)—Menstrual cycle length has been associated with different chronic conditions, including breast cancer, osteoporosis, and cardiovascular disease. A new study suggests that changes in cycle length specifically during the menopause transition may also predict a woman's risk of developing atherosclerosis after menopause. Study results are published online today in *Menopause*, the journal of The North American Menopause Society (NAMS).

Because reproductive hormone levels vary greatly depending on the timing of ovulation and the length of the cycle, it has been suggested that cycle length could be an important marker for cumulative hormone exposure during a reproductive lifetime. Of note is that cumulative estrogen exposure varies by cycle length. Compared with women with normal-length cycles, women with short cycles in this study had higher estradiol concentrations across the cycle. A woman with frequent menstrual cycles (short cycles) will spend more of her reproductive years with higher estrogen levels than a woman with very long cycles because the early follicular phase of the cycle is characterized by relatively less estrogen secretion and is the more variable portion of the cycle.

Previous studies have already shown that women with irregular or long menstrual cycles have greater cardiovascular disease risk. In addition, a long menstrual cycle (more than 40 days) has been identified as a potential risk factor for the development of type 2 diabetes.

During the menopause transition, very long cycles become much more likely. Often the average menstrual cycle length begins to increase rapidly starting at 4 years before the final menstrual period. Findings to date assumed that all women experience one common trajectory of menstrual cycle length change over the menopause transition. However, as women go through menopause, it's possible that they could experience a variety of patterns or changes in menstrual cycle length. But no known previous studies considered the effect of different patterns of menstrual cycle length during the menopause transition.

The Study of Women's Health Across the Nation (SWAN) Daily Hormone Study measured menstrual cycle length and reproductive hormone levels across complete cycles, with measures repeated annually for up to 10 years or until postmenopause. In this new study involving 428 women who participated in SWAN, the researchers identified three trajectories of cycle length over the menopause transition: stable, late increase, and early increase. Among the three groups of women, those who experienced an early increase trajectory had the worst cardiometabolic risk profile.

On the basis of study results, the researchers suggested that patterns of cycle length over the menopause transition can be seen as markers of future vascular health that may help identify groups at greater risk of atherosclerosis after menopause.

Study results are published in the article “Patterns of menstrual cycle length over the menopause transition are associated with subclinical atherosclerosis after menopause.”

“This study highlights that menstrual cycle length over the menopause transition may be another factor to consider when assessing cardiovascular risk in women. These findings are consistent with prior studies that link irregular menses with cardiovascular disease risk, potentially because of lower mean estrogen levels associated with fewer ovulations,” says Dr. Stephanie Faubion, NAMS medical director.

For more information about menopause and healthy aging, visit www.menopause.org.

Founded in 1989, The North American Menopause Society (NAMS) is North America’s leading nonprofit organization dedicated to promoting the health and quality of life of all women during midlife and beyond through an understanding of menopause and healthy aging. Its multidisciplinary membership of 2,000 leaders in the field—including clinical and basic science experts from medicine, nursing, sociology, psychology, nutrition, anthropology, epidemiology, pharmacy, and education—makes NAMS uniquely qualified to serve as the definitive resource for health professionals and the public for accurate, unbiased information about menopause and healthy aging. To learn more about NAMS, visit www.menopause.org.