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Vitamin D and Estradiol Help Guard Against Heart Disease, Stroke, and Diabetes

New study demonstrates synergistic effects of vitamin D and estradiol deficiency on metabolic syndrome

CLEVELAND, Ohio (June 12, 2019)—Vitamin D and estrogen have already shown well-documented results in improving bone health in women. A new study from China suggests that this same combination could help prevent metabolic syndrome, a constellation of conditions that increases the risk of heart disease, stroke, and diabetes in postmenopausal women. Results are published online today in *Menopause*, the journal of The North American Menopause Society (NAMS).

Metabolic syndrome has emerged as a major public health concern, affecting 30% to 60% of postmenopausal women worldwide. The progression of abdominal obesity and heart disease that lead to metabolic syndrome increases significantly as women age and appears to be directly associated with estrogen loss in postmenopausal women. This has led some researchers to recommend estradiol treatment for women who are fewer than 6 years postmenopausal as a means of preventing heart disease.

Similarly, vitamin D has been associated with several markers of metabolic syndrome, including obesity, hyperglycemia, insulin resistance, and type 2 diabetes mellitus. Supplementation with vitamin D has been shown to reduce the risk of metabolic syndrome over a 20-year follow-up.

Because the synergistic benefits of vitamin D and estrogen are already documented to improve bone health in women, researchers in this newest study from China hypothesized that the same interaction might affect metabolic syndrome. The cross-sectional study included 616 postmenopausal women aged 49 to 86 years who were not taking estrogen and vitamin D/calcium supplements at the beginning of the trial. It concluded there was a positive correlation between vitamin D and estradiol.

Specifically, higher vitamin D was associated with a favorable lipid profile, blood pressure, and glucose level. Estradiol was negatively associated with cholesterol, triglycerides, and blood pressure. These results suggest a synergistic role of vitamin D and estradiol deficiency in developing metabolic syndrome in postmenopausal women.

Findings are published in the article “The synergistic effects of vitamin D and estradiol deficiency on metabolic syndrome in Chinese postmenopausal women.”

“In this cross-sectional study, low estradiol increased the risk of metabolic syndrome in postmenopausal women who had vitamin D deficiency,” says Dr. JoAnn Pinkerton, NAMS executive director. “The Endocrine Society recommends vitamin D levels of 30 ng/mL for postmenopausal women. Whether adequate levels of vitamin D improve nonskeletal cardiovascular or cognitive benefits remains the subject of debate, and answers await randomized clinical trial data.”

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.