Progression of Metabolic Syndrome Severity During the Menopausal Transition.

Gurka MJ, Vishnu A, Santen RJ, DeBoer MD.

BACKGROUND: After menopause, women exhibit a higher prevalence of the metabolic syndrome (MetS) and higher risk of cardiovascular disease. However, the timing of changes in MetS severity over the menopausal transition and whether these changes differ by racial/ethnic group remain unclear.

METHODS AND RESULTS: We assessed data from 1470 women from the Atherosclerosis Risk in Communities cohort who experienced transition in menopausal status over 10 years (visits 1-4). We used linear mixed models to evaluate changes by menopausal status (premenopause, perimenopause, and postmenopause) in a MetS severity Z-score and in the individual MetS components. While there were gradual increases in MetS severity over time across menopause stages, black women in particular exhibited more rapid progression in MetS severity during the premenopausal and perimenopausal periods than during the postmenopausal period. In the postmenopausal period (compared with prior periods), white women exhibited unfavorable decreases in high-density lipoprotein, while black women exhibited favorable alterations in the rate of change for waist circumference, triglycerides, high-density lipoprotein, and glucose, contributing to the slowed progression of MetS severity. These changes were all observed after adjusting for hormone replacement treatment.

CONCLUSIONS: During menopausal transition, women exhibited rapid increases in MetS severity during the premenopausal and perimenopausal periods, with black women having significant reductions in this increase in severity during the postmenopausal period. These data suggest that the higher prevalence of MetS in postmenopausal women may be caused more by changes during the menopausal transition than by postmenopause. These findings may thus have implications regarding the timing of cardiovascular risk relative to menopause.

Visceral Adipose Tissue Is Associated with Bone Microarchitecture in the Framingham Osteoporosis Study.


MOTIVATION: Obesity has been traditionally considered to protect the skeleton against osteoporosis and fracture. Recently, body fat, specifically visceral adipose tissue (VAT), has been associated with lower BMD and increased risk for some types of fractures. We studied VAT and bone microarchitecture in 710 participants (58% women, 61.3 ± 7.7 yrs) from the Framingham Offspring cohort to determine whether cortical and trabecular BMD and microarchitecture differ according to the amount of VAT.

METHODS AND RESULTS: VAT was measured from CT imaging of the abdomen. Cortical and trabecular BMD and microarchitecture were measured at the distal tibia and radius using high-resolution peripheral quantitative computed tomography (HR-pQCT). We focused on ten bone parameters: cortical BMD (CtBMD), cortical tissue mineral density (CtTMD), cortical porosity (CtPo), cortical thickness (CtTh), cortical bone area fraction (CtA/TtA), trabecular density (TbBMD), trabecular number (TbN), trabecular thickness (TbTh), total area (TtAr) and failure load (FL) from micro finite element analysis. We assessed the association between sex-specific quartiles of VAT and BMD, microarchitecture and strength in all participants and stratified by sex. All analyses were adjusted for age, sex, and in women, menopausal status, then repeated adjusting for BMI or weight. At the radius and tibia, CtTh, CtA/TtA, TbBMD, TbN, and FL were positively associated with VAT (all P-trend < 0.05), but no other associations were statistically significant except for higher levels of cortical porosity with higher VAT in the radius. Most of these associations were only observed in women, and were no longer significant when adjusting for BMI or weight. CONCLUSION: Higher amounts of VAT are associated with greater BMD and better microstructure of the peripheral skeleton despite some suggestions of significant deleterious changes in cortical measures in the non-weight bearing radius. Associations were no longer significant after adjustment for BMI or weight, suggesting that the effects of VAT may not have a substantial effect on the skeleton independent of BMI or weight.
Menopause. 2016 Aug 1. [Epub ahead of print]

Associations between dietary patterns and psychological factors: a cross-sectional study among Chinese postmenopausal women.
Liu ZM, Ho SC, Xie YJ, Chen YJ, Chen YM, Chen B, Wong SY, Chan D, Wong CK, He Q, Tse LA, Woo J.
OBJECTIVE: The aim of this study is to explore the association of dietary patterns with depression, perceived stress, and self-esteem among postmenopausal Chinese women. METHODS: A cross-sectional study was conducted among 906 participants who attended the screening visits for two soy trials. Dietary data were collected using a validated food frequency questionnaire containing 85 food items. Principal component factor analysis was used to derive dietary patterns based on 11 food groups. Psychological factors were assessed by the Center for Epidemiologic Studies Depression Scale, Perceived Stress Scale, and Rosenberg Self-esteem Scale. RESULTS: We identified three dietary patterns as follows: processed foods (refined grains, preserved foods, fat meat, fried foods, and sweets), whole plant foods (whole grains, vegetables, and fruits), and animal foods (fish, lean meat, and milk products). Multivariable linear regression analyses indicated that whole plant food intake was negatively associated with depression score (P=0.030). Processed food intake was positively associated with perceived stress (P=0.025) and depression (P=0.073), and negatively associated with scores of self-esteem (P=0.046). The highest tertile of processed foods score was associated with 79.3% increased risk of depression (P for trend=0.006), whereas the highest tertile of whole plant food score was associated with 26% reduction of depression (P for trend=0.023) relative to the lowest tertile. CONCLUSIONS: Dietary patterns featuring a low intake of processed foods and/or a high intake of whole plant foods were associated with a reduced risk of depression and perceived stress.

Menopause. 2016 Aug 1. [Epub ahead of print]

Understanding women's experience of memory over the menopausal transition: subjective and objective memory in pre-, peri-, and postmenopausal women.
Unkenstein AE, Bryant CA, Judd FK, Ong B, Kinsella GJ.
OBJECTIVE: Many women complain of forgetfulness during the menopausal transition. This study aimed to examine women's subjective perception of memory and their objective memory performance across the menopausal transition.
METHODS: One hundred thirty women, aged 40 to 60 years were recruited from outpatient Menopause and Gynaecological clinics at the Royal Women's Hospital, Melbourne. Women were divided into menopausal stage groups according to the Stages of Reproductive Aging Workshop criteria based on menstrual patterns. All women completed self-report measures of depressive, anxiety, vasomotor, and sleep symptoms; attitude to menopause; and various aspects of memory, including memory contentment, frequency of forgetting, sense of control over memory, and use of memory strategies. Women also completed a comprehensive neuropsychological evaluation assessing memory and executive function. RESULTS: Comprehensive neuropsychological assessment showed no difference between premenopausal (n=36), perimenopausal (n=54), and postmenopausal (n=40) groups in performance on memory and executive tasks. Perimenopausal women, however, reported significantly more frequent forgetting (η=0.09, P<0.01) and less contentment with their memory (η=0.08, P<0.01) than pre- and postmenopausal women. CONCLUSIONS: Although no impairment was observed in neuropsychological performance, when compared with pre- and postmenopausal women, perimenopausal women were more likely to be dissatisfied with their memory. During the menopausal transition women with a more negative attitude to menopause and more intense depressive, anxiety, vasomotor, and sleep symptoms are more vulnerable to feeling less content with their memory.

Menopause. 2016 Aug 1. [Epub ahead of print]

Calcium plus vitamin D supplementation and height loss: findings from the Women's Health Initiative Calcium and Vitamin D clinical trial.
Crandall CJ, Aragaki AK, LeBoff MS, Li W, Wactawski-Wende J, Cauley JA, Margolis KL, Manson JE.
OBJECTIVE: The aim of this study was to determine the associations between calcium + vitamin D supplementation (vs placebo) and height loss in 36,282 participants of the Women's Health Initiative Calcium and Vitamin D trial.
METHODS: Post hoc analysis of data from a double-blind randomized controlled trial of 1,000 mg of elemental calcium as calcium carbonate with 400 IU of vitamin D3 daily (CaD) or placebo in postmenopausal women at 40 US clinical centers. Height was measured annually (mean follow-up 5.9 y) with a stadiometer. RESULTS: Average height loss was 1.28 mm/y among participants assigned to CaD versus 1.26 mm/y for women assigned to placebo (P=0.35). Effect modification of the CaD intervention was not observed by age, race/ethnicity, or baseline intake of calcium or vitamin D. Randomization to the CaD group did not reduce the risk of clinical height loss (loss of ≥1.5 inches [3.8 cm]: hazard ratio (95% CI)=1.00 (0.81, 1.23). A strong association (P<0.001) was observed between age group and height loss. When we censored follow-up data in participants who became nonadherent to study pills, the results were similar to those of our primary analysis. CONCLUSIONS: Compared with placebo, the CaD supplement used in this trial did not prevent height loss in healthy postmenopausal women.


Should We Offer Medication to Reduce Breast Cancer Risk?: Grand Rounds Discussion From Beth Israel Deaconess Medical Center.

Burns RB, Schonberg MA, Tung NM, Libman H.

In November 2013, the U.S. Preventive Services Task Force issued a guideline on medications for risk reduction of primary breast cancer in women. Although mammography can detect early cases, it cannot prevent development of breast cancer. Tamoxifen and raloxifene are selective estrogen receptor modulators that have been shown to reduce the risk for estrogen receptor-positive breast cancer and are approved by the U.S. Food and Drug Administration (FDA) for this indication. However, neither medication reduces the risk for estrogen receptor-negative breast cancer or all-cause mortality. The Task Force concluded that postmenopausal women with an estimated 5-year risk for breast cancer of 3% or greater will probably have more net benefit than harm and recommends that clinicians engage in shared, informed decision making about these medications. The American Society of Clinical Oncology issued a practice guideline on use of pharmacologic interventions for breast cancer in 2013. It recommends that women aged 35 years or older at increased risk, defined as a 5-year absolute risk for breast cancer of 1.66% or greater, discuss breast cancer prevention medications with their primary care practitioner. The Society includes the aromatase inhibitor exemestane in addition to tamoxifen and raloxifene as a breast cancer prevention medication, although exemestane is not FDA approved for this indication. Here, an oncologist and an internist discuss how they would balance these recommendations and what they would suggest for an individual patient.


Swimming and cycling do not cause positive effects on bone mineral density: a systematic review.

Abrahin O, Rodrigues RP, Marçal AC, Alves EA, Figueiredo RC, de Sousa EC.

Osteoporosis is considered a common metabolic bone disease and its prevalence is increasing worldwide. In this context, physical activity has been used as a non-pharmacological tool for prevention and auxiliary treatment of this disease. The aim of this systematic review was to evaluate the effects of cycling and swimming practice on bone mineral density (BMD). This research was conducted in accordance with the recommendations outlined by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses. The studies were consulted in the period from 2004 to 2014, through major electronic databases: PubMed®, SciELO® and LILACS®. Ten studies evaluated the effects of cycling on BMD, and the results showed that nine studies have linked the practice of professional cycling with low levels of BMD. Another 18 studies have reported that swimming has no positive effects on bone mass. We conclude that cycling and swimming do not cause positive effects on BMD; thus, these are not the most suitable exercises for prevention and treatment of osteoporosis.