Evaluation of the impact, treatment patterns, and patient and physician perceptions of vasomotor symptoms associated with menopause in Europe and the United States

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Objectives: This study elicited the views of physicians and patients with vasomotor symptoms (VMS) associated with menopause on the impact of VMS and treatment patterns/perceptions. Study design: Data from the Adelphi VMS Disease Specific Programme, a point-in-time survey conducted in 5 European countries and the United States in 2020, were used. Primary care providers (PCPs) and gynecologists seeing ≥3 patients/week with VMS associated with menopause completed a survey and chart review; their patients were invited to complete a survey and questionnaires.

Main outcome measures: Physicians reported treatment patterns and patient-specific symptoms and treatment preferences. Patients described symptoms, impact of VMS, and treatment satisfaction.

Results: Participants included 115 PCPs and 118 gynecologists. Physicians reviewed the charts of 1816 patients, 854 of whom completed surveys. Moderate/severe impact of VMS on sleep, mood, quality of life, and work/study was reported by 35.8 %, 31.6 %, 23.6 %, and 15.4 % of women, respectively. Based on chart review, 64.8 % of women were currently prescribed treatment for VMS, most commonly hormone therapy (HT; 73.1 %), followed by selective serotonin or serotonin-norepinephrine reuptake inhibitors (31.3 %). Most women (57.3 %) with VMS were eligible for HT but averse to using it. Despite 91.4 % of physicians finding HT to be effective, 62.7 % agreed (slightly-strongly) that their patients are generally reluctant to use it. One-third of women were dissatisfied with VMS control. Conclusions: VMS can considerably impact daily life. Effective treatment options that are better accepted could potentially improve management of VMS and lead to better quality of life for women with VMS associated with menopause.

Metabolic dysfunction and obesity-related cancer: Beyond obesity and metabolic syndrome

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Objectives: The metabolic dysfunction driven by obesity, including hyperglycemia and dyslipidemia, increases risk for developing at least 13 cancer types. The concept of "metabolic dysfunction" is often defined by meeting various combinations of criteria for metabolic syndrome. However, the lack of a unified definition of metabolic dysfunction makes it difficult to compare findings across studies. This review summarizes 129 studies that evaluated variable definitions of metabolic dysfunction in relation to obesity-related cancer risk and mortality after a cancer diagnosis. Strategies for metabolic dysfunction management are also discussed. Methods: A comprehensive search of relevant publications in MEDLINE (PubMed) and Google Scholar with review of references was conducted. Results: Metabolic dysfunction, defined as metabolic syndrome diagnosis or any number of metabolic syndrome criteria out of clinical range, inflammatory biomarkers, or markers of metabolic organ function, has been associated with risk for, and mortality from, colorectal, pancreatic, postmenopausal breast, and bladder cancers. Metabolic dysfunction associations with breast and colorectal cancer risk have been observed independently of BMI, with increased risk in individuals with metabolically unhealthy normal weight or overweight/obesity compared with metabolically healthy normal weight. Conclusion: Metabolic dysfunction is a key risk factor for obesity-related cancer, regardless of obesity status. Nonetheless, a harmonized definition of metabolic dysfunction will further clarify the magnitude of the relationship across cancer types, enable better comparisons across studies, and further guide criteria for obesity-related cancer risk stratification.

Regular Exercise Decreases the Risk of Osteoporosis in Postmenopausal Women

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Regular exercise can regulate bone maintenance and improve bone health. However, large-scale epidemiological studies on the association between regular exercise and incident osteoporosis in menopausal women are still lacking. We aimed to examine the relationship between exercise and the risk of osteoporosis in menopausal women. In cross-sectional analysis, we enrolled 30,046 postmenopausal women with available information from the database of the Taiwan Biobank (TWB). We divided them into two groups according to their status of regular exercise, i.e., no exercise and regular exercise groups. A t-score of -2.5 or more standard deviations (SDs) below that of a young adult was defined as osteoporosis. Logistic regression after adjusting for confounding factors was used to analyze the association between regular exercise and the prevalence of osteoporosis. Furthermore, the risk of incident osteoporosis development was analyzed in a longitudinal cohort of 6,785 postmenopausal women without osteoporosis at baseline using a Kaplan-Meier analysis and a log-rank test. The mean age of subjects in the cross-sectional cohort was 59 years old. Fifty-six percent of them were exercising regularly. Osteoporosis was observed in 1,886 (14.2%) and 2,254 (13.4%) participants in the no exercise and regular exercise groups. Lower risk of osteoporosis was noted in postmenopausal women with regular exercise when compared with those without regular exercise [odds ratio (OR), 0.76; 95% confidence interval (95% CI), 0.71-0.81]. In the longitudinal cohort, incident osteoporosis was found in 430 (10.5%) women with regular exercise and 299 (11.2%) women without exercise during a mean follow-up of 45 months. Cox regression analysis revealed that the risk for incident osteoporosis was lower in postmenopausal women with regular exercise than those without exercise [hazard ratio (HR), 0.83; 95% CI, 0.71-0.97]. Our study suggests that regular exercise is associated with a reduced risk of osteoporosis in postmenopausal women and strengthens the importance of exercise for the prevention of osteoporosis.

Sarcopenia in Menopausal Women: Current Perspectives (Free Full Text)
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Menopause is associated with hormonal changes, which could accelerate or lead to sarcopenia. Functional impairment and physical disability are the major consequences of sarcopenia. In order to hamper these negative health outcomes, it appears necessary to prevent and even treat sarcopenia, through healthy lifestyle changes including diet and regular physical activity or through hormonal replacement therapy when appropriate. Therefore, the purpose of this narrative review will be 1) to present the prevalence of sarcopenia in postmenopausal women; 2) to address the risk factors related to sarcopenia in this specific population; and 3) to discuss how to manage sarcopenia among postmenopausal women.

Coronary artery calcium and atherosclerotic cardiovascular disease risk in women with early menopause: The Multi-Ethnic Study of Atherosclerosis (MESA)
Background and aims: We aimed to determine the utility of coronary artery calcium (CAC) for atherosclerotic cardiovascular disease (ASCVD) risk stratification in women with and without early menopause (EM). Methods: To examine the association between CAC and incident ASCVD, we performed Kaplan-Meier survival analysis and multivariable Cox proportional hazards modeling using data from 2,456 postmenopausal women in the Multi-Ethnic Study of Atherosclerosis (MESA) with or without EM, defined as occurring at <45 years of age. Results: The cohort was 64.1 ± 9.1 years old and 28.0% experienced EM. There were 291 ASCVD events over 12.5 ± 3.6 years follow-up with a higher event rate among those with EM compared to those without EM of 13.6 vs. 9.0 per 1,000 year follow-up (p < 0.01). Women with EM had a slightly lower prevalence of CAC = 0 (55.1%) than women without EM (59.7%) (p = 0.04) despite no difference in mean age. Among women with CAC = 0, the cumulative incidence of ASCVD at 10 years was low-to-borderline for women with (5.4%) and without EM (3.2%) (p = 0.06). However, women with EM had a significantly higher 15-year risk with an adjusted HR of 1.96 (95% CI: 1.26-3.04). In multivariable Cox models, women with CAC ≥ 1 had progressively increased ASCVD risk that did not significantly differ by EM status. Conclusion: In MESA, >50% of middle-aged postmenopausal women with EM had CAC = 0, similar to those without EM. Among women with CAC = 0, those with EM had a low to borderline 10-year risk of ASCVD, but the 15-year risk was significantly higher for women with EM versus those without EM. When CAC ≥ 1, the incidence of ASCVD
was similar for women with and without EM. These findings support the use of CAC to help improve ASCVD risk stratification in women with EM.

The Relation Between Sex, Menopause, and White Matter Hyperintensities: The Rhineland Study
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Background and objective: Mounting evidence implies that there are sex differences in white matter hyperintensity (WMH) burden in the elderly. Questions remain regarding possible differences in WMH burden between men and women of younger age, sex-specific age trajectories and effects of (un)controlled hypertension, and the effect of menopause on WMH. Therefore, our aim is to investigate these sex differences and age-dependencies in WMH load across the adult life span, and to examine the effect of menopause. Methods: This cross-sectional analysis was based on participants of the population-based Rhineland Study (30 - 95 years) who underwent brain MRI. We automatically quantified WMH using T1-weighted, T2-weighted and FLAIR images. Menopausal status was self-reported. We examined associations of sex and menopause with WMH load (logit-transformed and z-standardised) using linear regression models, while adjusting for age, age-squared, and vascular risk factors. We checked for an age*sex and (un)controlled hypertension*sex interaction and stratified for menopausal status comparing men with premenopausal women (persons aged ≤ 59 years), men with postmenopausal women (persons aged ≥ 45 years), and pre- with postmenopausal women (age range 45 - 59 years). Results: Of 3410 participants with a mean age of 54.3 years (SD = 13.7), 1973 (57.9%) were women, of which 1167 (59.1%) were postmenopausal. We found that the increase in WMH load accelerates with age and in a sex-dependent way. Premenopausal women and men of similar age did not differ in WMH burden. WMH burden was higher and accelerated faster in postmenopausal women compared to men of similar age. Additionally, we observed changes related to menopause, in that postmenopausal women had more WMH than premenopausal women of similar age. Women with uncontrolled hypertension had a higher WMH burden compared to men, which was unrelated to menopausal status. Discussion: After menopause, women displayed a higher burden of WMH than contemporary premenopausal women and men, and an accelerated increase in WMH. Sex-specific effects of uncontrolled hypertension on WMH were not related to menopause. Further studies are warranted to investigate menopause-related physiological changes, that may inform on causal mechanisms involved in cerebral small vessel disease progression.

Progestogen-mediated neuroprotection in central nervous system disorders
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Neuroactive steroids can be synthetic or endogenous molecules produced by neuronal and glial cells, and peripheral glands. Examples include estrogens, testosterone, progesterone and its reduced metabolites such as 5α-dihydroprogesterone and allopregnanolone. Steroids produced by neurons and glia target the nervous system and are called neurosteroids. Progesterone and analog molecules, known as progestogens, have been shown to exhibit neurotrophic, neuroprotective, antioxidant, anti-inflammatory, glial modulatory, promyelinating and remyelinating effects in several experimental models of neurodegenerative and injury conditions. Pleiotropic mechanisms of progestogens may act synergistically to prevent neuron degeneration, astrocyte and microglial reactivity, reducing morbidity and mortality. The aim of this review is to summarize the significant findings related to the actions of progesterone and other progestogens in experimental models and epidemiological and clinical trials of some of the most prevalent and debilitating chronic neurodegenerative disorders, namely Alzheimer's disease, Parkinson's disease, Huntington's disease and Amyotrophic Lateral Sclerosis. We evaluated progestogen alterations presented under pathological conditions, how pathology modifies their levels, as well as the intracellular mechanisms and glial interactions underlying their neuroprotective effects. Furthermore, an analysis of the potential utility of natural progestogens and synthetic progestins as neuroprotective and regenerative agents, when administered exogenously as hormone replacement therapy in menopause, is also discussed.

Lipid Profile in Patients with Primary Ovarian Insufficiency: A Systematic Review and Meta-Analysis

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Backgrounds: A large number of studies have investigated the effect of early menopause on cardiovascular disease (CVD) outcomes and the relationship between the levels of lipid profile and primary ovarian insufficiency (POI). However, the results are inconsistent. The aim of this meta-analysis was to assess whether the levels of total cholesterol (TC), triglyceride (TG), high density lipoprotein (HDL) and low-density lipoprotein (LDL) changed in women with POI relative to healthy controls.

Methods: To identify eligible studies, references published prior to December 2021 were searched in the PubMed, Embase, Cochrane Library and Web of Science databases. DerSimonian-Laird random-effects model was used to estimate the overall standard mean difference (SMD) between POI and healthy control subjects. Subgroup analysis and sensitivity analysis were performed, and publication bias was assessed. Results: A total of 12 studies featuring 846 women with primary ovarian insufficiency and 959 healthy women were selected for analysis. The meta-analysis showed that the levels of TC (SMD: 0.60; 95% CI: 0.32 to 0.89; P<0.0001), TG (SMD: 0.36; 95% CI: 0.12 to 0.60; P=0.003), LDL (SMD: 0.46; 95% CI: 0.16 to 0.76; P=0.003) were significantly increased in women with POI. There was no significant change in the level of HDL (SMD: 0.25; 95% CI: -0.12 to 0.61; P=0.19).

Subgroup analysis showed that the heterogeneity in this meta-analysis of the correlation between lipid profile and POI might come from by region, sample size, number of cases, mean body mass index (BMI) value of cases and mean age of cases. Conclusions: Scientific evidence suggests that the lipid profile levels were altered in patients with primary ovarian insufficiency compared to healthy controls. Therefore, we recommend that early medical intervention (e.g., hormone replacement therapy) to minimize the risk of CVD morbidity and mortality associated with dyslipidemia in patients with POI.


The Association Between Route of Post-menopausal Estrogen Administration and Blood Pressure and Arterial Stiffness in Community-Dwelling Women

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Background: Postmenopausal hormone therapy (HT) is associated with increased cardiovascular risk. Although the route of estrogen administration may play a role in mediating risk, previous studies have not controlled for concomitant progestin use. Objective: To investigate the association between the route of estrogen therapy (oral or non-oral) HT use, without concomitant progestin, and blood pressure and arterial stiffness in postmenopausal women. Methods: Systolic blood pressure [SBP], diastolic blood pressure [DBP]), arterial stiffness (aortic pulse wave velocity [aPWV] and augmentation index at 75 beats per minute [AIx]) were measured using a validated automated brachial cuff-based oscillometric approach (Mobil-O-Graph) in a community-dwelling sample of 328 women. Results: Fifty-five participants (16.8%) were ever users (current and past use) of estrogen-only HT (oral [n = 16], transdermal [n = 20], vaginal [n = 19]), and 223 were never HT users (control). Ever use of oral estrogen was associated with increased SBP and DBP (Oral: SBP: 137 ± 4 mmHg, DBP: 79 ± 2 mmHg) compared to use of non-oral estrogen (transdermal: SBP: 118 ± 2 mmHg, DBP: 73 ± 1 mmHg; p < 0.01 & p = 0.012, respectively; vaginal: SBP: 123 ± 2 mmHg DBP: 73 ± 2 mmHg; p = 0.02 & p = 0.01, respectively.) and controls (SBP: 124 ± 1 mmHg, DBP: 74 ± 1 mmHg, p = 0.03, p = 0.02, respectively) after adjustment for covariates. aPWV was higher in oral estrogen ever users (9.9 ± 1 m/s) compared to non-oral estrogen (transdermal: 8.6 ± 0.3 m/s, p < 0.01; vaginal: 8.8 ± 0.7 m/s, p = 0.03) and controls (8.9 ± 0.5 m/s, p = 0.03) but these associations were no longer significant after adjustment for covariates. AIx was higher in oral estrogen (29 ± 2 %) compared to non-oral estrogen (transdermal: 16 ± 2 %; vaginal: 22 ± 1.7 %) but this association was no longer significant after adjustment for covariates (p = 0.92 vs. non-oral; p = 0.74 vs. control). Conclusion: Ever use of oral estrogen was associated with increased SBP and DBP compared to non-oral estrogen us