Selección de Resúmenes de Menopausia

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Association of Sarcopenic Obesity and Osteoporosis in Postmenopausal Women: Risk Factors and Protective Effects of Hormonal Therapy and Nutritional Status

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The cross-sectional study of postmenopausal Thai women discovered a strong association between both sarcopenia and sarcopenic obesity and osteoporosis. The risk of sarcopenic obesity was found to increase with poor nutritional status, while a history of menopausal hormone therapy was shown to offer protection. Purpose: The study aims to investigate the association between sarcopenic obesity and osteoporosis in postmenopausal women and to identify risk factors for sarcopenic obesity. Methods: Our comprehensive cross-sectional study involved 248 Thai postmenopausal women aged 45-80. Osteoporosis was defined as a bone mineral density (BMD) T-score of less than -2.5 at the lumbar spine, total hip, or femoral neck, as measured by dual-energy X-ray absorptiometry (DXA). Sarcopenic obesity is defined as the co-existence of obesity and sarcopenia according to the criteria established by the European Society for Clinical Nutrition and Metabolism (ESPEN) and the European Association for the Study of Obesity (EASO). Sarcopenia was defined as skeletal muscle mass adjusted by weight (SMM/W) <35.6%, assessed via Bioelectrical Impedance Analysis (BIA), and compromised muscle function, which includes low hand grip strength (<18 kg) or poor physical performance (chair-stand test time ≥17 seconds). Obesity was defined as a fat mass percentage >41%, a body mass index (BMI) ≥25 kg/m2, or a waist circumference ≥80 cm. Moreover, a questionnaire of baseline characteristics and the factor associated with sarcopenic obesity was collected, including age, years since menopause, history of menopausal hormone therapy, underlying diseases, medications, nutritional status assessed by the Mini Nutritional Assessment (MNA), and physical activity assessed by The Global Physical Activity Questionnaire (GPAQ). Univariate and multiple logistic regression analyses were used to examine the associated factors with sarcopenic obesity. Results: The prevalence of sarcopenic obesity was 13.3%, and sarcopenia was present in 28.63%, while osteoporosis affected 39.91% of the participants. Sarcopenia and sarcopenic obesity were significantly associated with osteoporosis (odds ratio (OR) 3.05; 95% CI, 1.69-5.49; $p < 0.05$ and OR 2.65; 95% CI, 1.23-5.68; $p < 0.05$, respectively). In univariate and stepwise logistic regression analyses, a lower MNA score was significantly associated with an increased risk of sarcopenic obesity. Specifically, participants with an MNA score of 8-11 had an OR of 2.26; 95% CI,1.04-4.92; $p < 0.04$, while those with a score <8 exhibited a markedly elevated risk (OR 25.6; 95% CI, 1.04-4.92; $p < 0.05$). Conversely, the use of menopausal hormone therapy (MHT) was identified as a significant protective factor against sarcopenic obesity (OR 0.29; 95% CI, 0.10-0.79; $p < 0.05$). Conclusion: Both sarcopenia and sarcopenic obesity are linked to osteoporosis. Menopausal hormone therapy and nutritional status are significantly associated with lower levels of sarcopenic obesity in postmenopausal women.

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Vulvovaginal estrogen therapy for urinary symptoms in postmenopausal women: a review and meta-analysis

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Objective: This study aimed to summarize available evidence on the efficacy of vulvovaginal topical estrogen therapy on lower urinary tract symptoms (LUTS) of genitourinary syndrome of menopause. Method: Multiple databases were systematically searched from inception to October 2024 to identify all studies providing pretreatment and post-treatment data for menopausal women with LUTS who received vulvovaginal estrogen therapy. A random effect meta-analysis was conducted (PROSPERO registration number: CRD42024517516). Results: Seventeen studies were included for a total of 2111 patients. The pooled odds ratio for the occurrence of considered outcomes after versus before treatment was 0.14 (95% confidence interval [CI] 0.05-0.36; I2 = 73%) for recurrent urinary tract infections, 0.12 (95% CI 0.05-0.29; I2 = 62%) for stress urinary incontinence, 0.22 (95% CI 0.16-0.32; I2 = 0%) for urge

incontinence, 0.11 (95% CI 0.06-0.18; I2 = 23%) for urgency, 0.22 (95% CI 0.16-0.23; I2 = 0%) for frequency and 0.24 (95% CI 0.17-0.34; I2 = 0%) for nocturia. The pooled mean difference for vaginal pH was -1.29 (95% CI -1.66 to -0.91; I2 = 96%). Conclusions: Vulvovaginal topical estrogen therapy appears to improve all analyzed LUTS in menopausal women. Available evidence supports current guidelines recommending vulvovaginal topical estrogen therapy for the management of these symptoms in menopausal women.

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Midlife estradiol treatment reduces the firing rate of liver-related PVN neurons in ovariectomized high-fat diet fed mice

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Estrogen plays a critical role in the regulation of physiological functions, including metabolism, and its involvement in the regulation of insulin sensitivity and glucose homeostasis has major clinical relevance. Despite the importance of brain-liver pathway in the regulation of glucose metabolism and that postmenopausal women have an increased risk of developing metabolic disorders, the effect of hormone therapy on hypothalamic neurons involved in the regulation of liver metabolism is not known. Here, we tested the hypothesis that in middle-aged, high-fat diet (HFD) fed female mice the excitability of liver-related neurons in the paraventricular nucleus (PVN) of the hypothalamus is increased, whereas estradiol treatment attenuates this increase. Mice fed with phytoestrogen free control (LFD) or HFD were ovariectomized, received a silastic capsule implant containing either estradiol or vehicle and stayed on their respective diets. Estradiol treatment resulted in less fat mass and lower body weight. Liver-related neurons were identified with a retrograde, trans-synaptic viral tracer and patch-clamp recordings were conducted from identified neurons in the PVN. Our data show that the excitability of liver-related PVN neurons was increased in ovariectomized HFD mice compared to LFD fed mice. In estradiol treated HFD mice the firing of liver-related PVN neurons was significantly reduced compared to vehicle treated HFD mice, whereas in LFD mice estradiol treatment did not alter the activity of liver-related PVN neurons. Our findings suggest that midlife estradiol treatment has beneficial effects on liver-related PVN neurons and thus may contribute to the improved metabolic status observed in estradiol treated HFD mice.

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Adverse Effects of Pesticides on the Ovary: Evidence from Epidemiological and Toxicological Studies

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Pesticides are widely used in agriculture, public health, and residences to control pests and insects. The safety of exposure to pesticides has raised concerns due to their presence in the environment and their potential effects on human health. The ovary is the major female reproductive organ and is considered a potential target organ for pesticide toxicity. This comprehensive Review examines the adverse effects of pesticide exposure on the ovary based on evidence from human biomonitoring, epidemiological studies, and toxicological studies. Epidemiological studies have shown that pesticide exposures are associated with early/delayed menarche, menstrual cycle disorders, early menopause, long time to pregnancy, polycystic ovary syndrome, primary ovarian insufficiency, infertility, and implantation failure in women. Both in vivo and in vitro studies have shown that exposure to pesticides disrupts the estrous cycle, reduces the follicle pool, alters hormone levels, and impairs oocyte maturation. Mechanisms of action of pesticides on ovarian function include effects on steroid receptors, hormone synthesis, oxidative stress, inflammation, epigenetic modifications, and signaling pathways. Gaps in knowledge and further research needs include prospective cohort studies with adequate sample sizes to elucidate the effects of different classes of pesticides (especially emerging insecticides, herbicides and fungicides) and mixture exposures on ovarian health, the development of effective toxicological models that can approximate or simulate realistic human exposure scenarios, and the translation of toxicological findings into measurable indicators that can be used in human health risk assessment. In summary, this Review aims to improve the understanding of the risk to women's reproductive health from exposures to pesticides and to provide insights into strategies for preventing and managing reproductive health risks.

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Decreased Bone Mineral Density Is Associated with Subclinical Atherosclerosis in Asymptomatic Non-Diabetic Postmenopausal Women

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Background/Objectives: Estrogen deficiency is strongly related to osteoporosis, but its role in the development of atherosclerotic cardiovascular disease (CVD), particularly in postmenopausal women, is unclear. The aim of this study was to assess the relationship between osteopenia and subclinical atherosclerosis in asymptomatic non-diabetic postmenopausal women. Methods: This prospective study included 117 consecutive postmenopausal women (mean age 59 ± 7 years) referred from the outpatient Rheumatology Clinic of the University Clinical Centre of Kosovo, recruited between September 2021 and December 2022. Clinical, biochemical, bone mineral density (BMD), carotid ultrasound and coronary CT angiography data were analyzed. Subclinical atherosclerosis was diagnosed as the presence of carotid plaques and/or increased intima-media thickness (CIMT) > 1.0 mm. Results: Of the 117 studied women, 83 (71%) had osteopenia or osteoporosis (T-score < -1 SD), who had higher prevalence of carotid artery plaques (27.7 vs. 8.8%, p = 0.019), compared to those with normal BMD. They were, also, older (p < 0.001), had a longer duration of menopause (p = 0.004) and higher CAC scores (p < 0.019), compared to those without plaques. In multivariate analysis [odds ratio 95% confidence interval], age [1.244 (1.052-1.470), p = 0.001], osteoporosis [0.197 (0.048-0.806), p = 0.024] and CAC score > 10 HU [0.174 (0.058-0.806), p = 0.006] were independently associated with the presence of carotid plaques. Conclusions: Reduced BMD is highly prevalent in asymptomatic non-diabetic postmenopausal women and is associated with a high prevalence of subclinical carotid atherosclerosis. Age, osteoporosis and CAC score > 10 HU were independently associated with atherosclerotic carotid plaque formation. These findings highlight the potential pathophysiological link between osteoporosis and subclinical atherosclerosis.

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Cross-sectional study of the association between regular sexual activity and sexual function and genitourinary syndrome of menopause-related symptoms

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Objectives: We assessed sexual symptoms and function in perimenopausal and postmenopausal Japanese women and examined the association between sexual regularity and their symptoms. Methods: Sexually active women aged 40-79 (n = 911) were selected from the genitourinary syndrome of menopause (GSM) in Japanese Women study (n = 4,134) and then divided into 2 groups: regular sexual activity group, which comprised women with sexual activity in the past 3 months (n = 716), and lower sexual activity group, which comprised women with sexual activity in the past year but not in the past 3 months (n = 195). We evaluated sexual function and symptoms in the regular sexual activity group using the Female Sexual Function Index and compared GSM-related symptoms between the two groups. Results: Sexual desire, arousal, and lubrication ability declined significantly with age. Sexual pain increases with age. However, orgasm and satisfaction did not decline significantly with age. Regular and lower sexual activity groups did not differ significantly in sexual symptoms; however, vulvar symptoms in daily life were significantly lower in the regular sexual activity group than in the lower activity group. Sexual activity in the past 3 months was associated with lower odds of vulvar pain, dryness, and irritation. Conclusions: This study reveals an association between regular sexual activity and low prevalence of GSM-related symptoms in daily life. The direction of this relationship could not be evaluated in this study and needs to be explored using prospective studies.

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Avoiding touching until 60 min-contamination of transdermal estradiol gel after physical contact

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Introduction: This study aimed to explore the relationship between the timing of physical contact and the level of estradiol contamination in the skin after application of estradiol gel. Estradiol gel is a common medication used in menopausal hormone therapy (MHT) and understanding its potential for contamination is crucial for ensuring patient safety and effective treatment. Purpose: The purpose of this hospital-based case-control study was to determine the correlation between the timing of physical contact and the degree of estradiol contamination following the administration of estradiol gel. This information is vital for advising patients on appropriate precautions to minimize the risk of estradiol transfer to others. Methods: This study was conducted in the gynecology department of Changsha Hospital for Maternal & Child Health Care Affiliated to Hunan Normal University between 2021 and 2022. The

participants included 40 menopausal women aged 40-60 years who required MHT and 40 women who did not use estradiol. The intervention involved physical contact after the administration of estradiol gel, and the main outcome measure was estradiol concentration on the skin. Skin estradiol levels were assessed at 10 min, 30 min, 60 min, and 120 min post-application. Results: The results indicated that the estradiol levels in the skin of the estradiol gel group were 205.29 ± 79.33, 193.64 ± 61.17, 99.15 ± 37.34, and 110.83 ± 69.81 at 10 min, 30 min, 60 min, and 120 min, respectively. In contrast, the estradiol content in the skin of the physical contact group was significantly lower, with levels of 65.87 ± 32.75, 59.06 ± 24.99, 7.95 ± 4.89, and 12.09 ± 3.71 at the same time points. Estradiol contamination was detected in all participants in the physical contact group; however, the levels were markedly lower than those in the estradiol gel group. In the estradiol gel group, estradiol levels remained stable within the first 30 min ($p > 0.05$), rapidly decreased at 60 min ($p < 0.001$) and remained stable from 60 min to 120 min ($p > 0.05$). The trend in skin estrogen concentration over time in the physical contact group was consistent with that in the estradiol gel group. Conclusion: The study concludes that physical contact following application of estradiol gel can lead to skin contamination. Therefore, it is recommended that patients avoid skin exposure for at least 60 min after applying estradiol gel and refrain from physical contact with others, especially infants, children, individuals with breast cancer or other sex hormone-dependent tumors, and pets to minimize the risk of estradiol transfer.

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Long-Term Health Outcomes in Polycystic Ovary Syndrome

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Polycystic ovary syndrome (PCOS) is a widespread condition, with reported prevalences ranging from 5% to 20% worldwide. Being a chronic hyperandrogenic condition, cardiovascular risk factors cluster in young adult women with the syndrome because its pathophysiology also involves dysfunctional adipose tissue, chronic low-grade subclinical inflammation and/or insulin resistance. Recent systematic reviews and meta-analysis suggest that middle-aged and postmenopausal women with PCOS present with an increased risk of cardiovascular events, namely myocardial infarction and stroke, when compared with non-hyperandrogenic women. Hyperandrogenic and metabolic complaints of PCOS also have a negative impact on the mental health of this broad segment of population. However, obesity played a major role on these associations: when comparing populations matched for weight, the cardiovascular risk of women with PCOS appears to be similar to that of women without this condition, even though postmenopausal patients retain their hyperandrogenic features. Importantly, recent results from a longitudinal prospective cohort study failed to demonstrate increased cardiovascular events during the late reproductive or early postmenopausal period of Caucasian patients with PCOS after 10 years of follow-up, even though cardiovascular risk factors were very frequent in these patients. Hence, current evidence indicates that the long-term prognosis of PCOS is somehow better that that expected from their cardiometabolic associations, which are largely driven by the association of PCOS with obesity. Nevertheless, physicians attending these women must still be aware of the potential health consequences of PCOS during their late-reproductive years and beyond menopause, in order to identify and properly manage these high risk patients.

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The Role of Vaginal Oestrogen Therapy in Postmenopausal Women With Pelvic Organ Prolapse: Does It Have Any Impact on Perioperative Outcomes? A Systematic Review of Randomised Controlled Trials

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Background: Pelvic organ prolapse (POP) affects up to 50% of postmenopausal women, negatively impacting sexual function and quality of life. While surgery remains the primary treatment, increasing attention has been given to perioperative vaginal oestrogen therapy and its potential impact on surgical outcomes. Objectives: This systematic review aims to evaluate the latest evidence on the role of vaginal oestrogen therapy in perioperative management and its impact on surgical outcomes in postmenopausal women with POP. Search strategy: A systematic literature search was performed across PubMed, MEDLINE, ClinicalTrials.gov and Embase from inception to December 31, 2024. No geographic restrictions were imposed and only peer-reviewed English-language studies were included. Selection criteria: Only prospective, randomised controlled trials (RCT) examining perioperative vaginal oestrogen therapy in postmenopausal women undergoing POP surgery were included. Data collection and analysis: Study identification and data extraction were independently performed by two and three authors, respectively. The Cochrane Collaboration's

tool was used to assess bias, with disagreements resolved by a fourth reviewer. Main results: Ten studies involving 709 patients were analysed. Vaginal oestrogen therapy showed a positive effect on Vaginal Maturation Index (VMI), vaginal thickness and surgeon's perception of tissue quality. It also appeared to reduce postoperative urinary tract infections (UTIs) and antibiotic use. However, no significant impact on sexual function, surgical ease, rates of surgical failure or POP recurrence was observed. Conclusions: Despite potential benefits in enhancing vaginal tissue quality and reducing UTIs and antibiotic use, current evidence is limited. Further standardised trials are needed for more definitive conclusions.

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Joint association of milk intake and blood 25(OH)D levels with fracture risk in postmenopausal women: 20-year follow-up data from the Japanese Population-Based Osteoporosis cohort study

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The associations between milk intake frequency and fracture risk in groups categorized by 25(OH)D levels were investigated using 20-year follow-up data. A significant association was observed only among women with 25(OH)D levels < 15 ng/mL. The measurement of blood 25(OH)D levels should be prioritized for individuals with low milk intake. Purpose: To investigate the association between milk intake frequency and fracture risk in groups based on blood 25(OH)D levels. Methods: This secondary analysis of a prospective cohort study included data from 1209 postmenopausal Japanese women aged ≥ 50 years. Baseline milk intake frequency was obtained using a questionnaire. Blood 25(OH)D levels were measured using a competitive protein-binding assay. Information on fracture events was obtained from face-to-face interviews through follow-up or supplemental mail surveys. Results: Over a median follow-up period of 16.1 years (total: 17,427 person-years), 358 and 238 women sustained at least one clinical and osteoporotic fracture, respectively. The proportions of participants with milk intake < 1 glass/day and those with 25(OH)D levels < 15 ng/mL were 31.9% and 21.6%, respectively. In univariate Cox proportional hazard analyses, a 25(OH)D level < 15 ng/mL and a milk intake of < 1 glass/day were associated with an increased risk of clinical and osteoporotic fractures. Among participants with 25(OH)D levels < 15 ng/mL, the adjusted hazard ratios for milk intake < 1 glass/day compared to ≥ 1 glass/day were 1.99 (95% confidence interval: 1.32-2.99) and 2.11 (1.28-3.47) for clinical and osteoporotic fractures, respectively. In contrast, the HRs were not significant among those with 25(OH)D levels ≥ 15 ng/mL. Conclusion: A clear positive association was identified between milk intake frequency and fracture risk among Japanese women after menopause with low 25(OH)D levels. Therefore, correcting vitamin D insufficiency would likely lower fracture risk. In addition, encouraging habitual milk intake may help prevent fractures, particularly among individuals with low 25(OH)D levels.