Selección de Resúmenes de Menopausia

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Therapeutics of Extracellular Vesicles in Cardiocerebrovascular and Metabolic Diseases

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Extracellular vesicles (EVs) are nanoscale membranous vesicles containing DNA, RNA, lipids, and proteins, which play versatile roles in intercellular communications. EVs are increasingly being recognized as the promising therapeutic agents for many diseases, including cardiocerebrovascular and metabolic diseases, due to their ability to deliver functional and therapeutical molecules. In this chapter, the biological characteristics and functions of EVs are briefly summarized. Importantly, the current state of applying EVs in the prevention and treatment of cardiocerebrovascular and metabolic diseases, including myocardial infarction, atrial fibrillation, myocardial hypertrophy, stroke, diabetes, Alzheimer's disease, fatty liver, obesity, thyroid diseases, and osteoporosis, is discussed. Lastly, the challenges and prospects related to the preclinical and clinical application of EVs receive a particular focus.

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Bone Mineral Density and the Risk of Parkinson's Disease in Postmenopausal Women

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Background: Whether bone mineral density (BMD) is related to the risk of Parkinson's disease (PD) is unclear. Objectives: The objective of this study was to examine the association between BMD status and incident PD in postmenopausal women. Methods: We retrospectively examined a nationwide cohort of 272,604 women aged 66 years who participated in the 2009-2012 Korean national health screening for transitional ages. BMD was evaluated using dual-energy X-ray absorptiometry of the central bones. The use of antiosteoporosis medications (AOMs) was assessed. We performed multivariable Cox proportional hazards regression to evaluate the association between BMD and PD risk by calculating hazard ratios (HRs) and 95% confidence intervals (CIs). Results: During the median follow-up of 7.7 years, 2,884 (1.1%) incident PD cases developed. After adjusting for confounding factors, lower BMD was associated with an increased risk of PD (P for trend <0.001). Individuals with osteoporosis had a 1.40-fold higher HR (1.40, 95% CI: 1.25-1.56) than those with a normal BMD. Sensitivity analyses suggested the associations robust to longer lag periods and further adjustment. These associations were prominent in individuals without AOM use before or after enrollment (P for interaction = 0.031 and 0.014). Increased risks of PD in individuals with osteopenia and osteoporosis who did not use AOMs were attenuated by the medication use during the follow-up period, regardless of previous AOM use. Conclusions: Lower postmenopausal BMD and osteoporosis were associated with an increased risk of PD. In addition, this association could be mitigated using AOMs. Proper management of BMD in postmenopausal women may help prevent PD.

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Role of calcium &/or vitamin D supplementation in preventing osteoporotic fracture in the elderly: A systematic review & meta-analysis

Background & objectives: Calcium and vitamin D, separately or in combination are usually prescribed to prevent fragility fractures in elderly population. However, there are conflicting results regarding the ideal dosage and overall efficacy obtained from randomized controlled trials (RCTs) conducted in the past. The objective of this study was to assess the fracture risk with the administration of calcium or vitamin D alone or in combination in elderly population (>60 yr). Methods: PubMed, Cochrane and Embase databases were searched to identify the studies from inception to February 2021 with keywords, 'vitamin D', 'calcium' and 'fracture' to identify RCTs. The trials with comparing vitamin D, calcium or combination with either no medication or placebo were included for final analyses. The data were extracted and the study quality was assessed by two reviewers. The principal outcome measure was fractures around hip joint and secondary outcomes assessed were vertebral and any other fracture. Results: Eighteen RCTs were

considered for the final analysis. Neither calcium nor vitamin D supplementation was associated with risk of fractures around hip joint [risk ratio (RR) 1.56; 95% confidence interval (CI), 0.91 to 2.69, I[2]=28%; P=0.11]. In addition, the combined administration of calcium and vitamin D was also not associated with fractures around the hip joint in comparison to either no treatment or placebo. The incidence of vertebral (RR 0.95; 95% CI, 0.82 to 1.10, I[2]=0%; P=0.49) or any other fracture (RR 0.83; 95% CI 0.65 to 1.06, I[2]=0%; P=0.14) was not significantly associated with the administration of calcium and vitamin D either individually or in combination. Further subgroup analysis of the results did not vary with the dosage of calcium or vitamin D, dietary calcium intake sex, or serum 25-hydroxyvitamin D levels. Interpretation & conclusions: The present meta-analysis of RCTs on calcium, vitamin D or a combination of the two in comparison to no treatment or placebo did not support the routine administration protocol of calcium and vitamin D either alone or in combination to lower the risk of fractures in elderly population.

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Premature ovarian insufficiency: a review on the role of oxidative stress and the application of antioxidants

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Normal levels of reactive oxygen species (ROS) play an important role in regulating follicular growth, angiogenesis and sex hormone synthesis in ovarian tissue. When the balance between ROS and antioxidants is disrupted, however, it can cause serious consequences of oxidative stress (OS), and the quantity and quality of oocytes will decline. Therefore, this review discusses the interrelationship between OS and premature ovarian insufficiency (POI), the potential mechanisms and the methods by which antioxidants can improve POI through controlling the level of OS. We found that OS can mediate changes in genetic materials, signal pathways, transcription factors and ovarian microenvironment, resulting in abnormal apoptosis of ovarian granulosa cells (GCs) and abnormal meiosis as well as decreased mitochondrial Deoxyribonucleic Acid (mtDNA) and other changes, thus accelerating the process of ovarian aging. However, antioxidants, mesenchymal stem cells (MSCs), biological enzymes and other antioxidants can delay the disease process of POI by reducing the ROS level in vivo.

Front Psychiatry. 2023 Aug 4;14:1204163. doi: 10.3389/fpsyt.2023.1204163. eCollection 2023.

Magnitude of placebo response in clinical trials of paroxetine for vasomotor symptoms: a meta-analysis

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Introduction: Vasomotor symptoms, or hot flashes, are among the most common complaints for menopausal and postmenopausal women. As an alternative to hormone replacement therapy, paroxetine mesylate became the only non-hormonal treatment approved by the U.S. Food and Drug Administration (FDA), despite limited evidence for its efficacy. More specifically, there is uncertainty around paroxetine's unique benefit and the magnitude of the placebo response in clinical trials of paroxetine. Methods: Relevant databases were searched to identify randomized clinical trials examining the efficacy of paroxetine to treat hot flashes. The primary outcomes of interest were hot flash frequency and hot flash severity scores. Data was extracted from the published results, and risk of bias assessments were conducted. Results: Six randomized clinical trials that included a total of 1,486 women were coded and analyzed. The results demonstrated that 79% of the mean treatment response for hot flash frequency is accounted for by a placebo response, resulting in a mean true drug effect of 21% at most. Additionally, 68% of the mean treatment response for hot flash severity is accounted for by a placebo response, resulting in a maximum true drug effect of 32%.D iscussion: The results herein call into question the actual efficacy of the only FDA approved, non-hormonal treatment for hot flashes by demonstrating that a placebo response accounts for the majority of treatment responses for reductions in both hot flash frequency and severity. The findings provide evidence to reevaluate the use of paroxetine to treat postmenopausal hot flashes and emphasize the importance of considering effective, alternative treatments for vasomotor symptoms.

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Short-Term Impact of Hormone Replacement Therapy on Risk of Breast Cancer in BRCA Mutation Carriers: A Nationwide Study in South Korea

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Purpose: BRCA 1/2 mutations are well-known risk factors for breast and ovarian cancers in women. Risk-reducing salpingo-oophorectomy (RRSO) is the standard treatment for preventing ovarian cancer with BRCA mutations. Postmenopausal syndrome (PMS) symptoms after RRSO can be alleviated by hormone replacement therapy (HRT); however, the use of HRT in carriers of BRCA mutations has been controversial because of the concern that HRT increases the risk of breast cancer. This study aimed to evaluate the effects of HRT in BRCA mutation carriers who underwent RRSO. Materials and methods: A total of 151 carriers, who underwent RRSO between 2013 and 2020 after the diagnosis of BRCA 1 or BRCA 2 mutations were selected and followed-up for a median of 3.03 years. Patients were divided into two groups: those who received HRT after RRSO (n=33) and those who did not (n=118). We compared the incidence of breast cancer over time between these two groups. Results: There was no significant difference in the incidence of breast cancer between women who received HRT and those who did not (p=0.229). Multivariate logistic regression analysis, adjusted for age and parity revealed no significant difference in the risk of breast cancer between these two groups (HR, 0.312; 95% CI, 0.039-2.48; p=0.2783). Conclusion: In this study, we found no relationship between post-RRSO HRT and breast cancer in the population with BRCA mutations. Therefore, healthcare providers may consider the alleviation of symptoms of postmenopausal syndrome through HRT in patients who underwent RRSO.

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Alcohol consumption and cancer incidence in women: interaction with smoking, body mass index and menopausal hormone therapy

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Background: Alcohol consumption has been associated with increased risks of certain site-specific cancers and decreased risks of some other cancers. There is, however, little reliable evidence as to whether the alcohol-associated risks for specific cancers are modified by smoking, body mass index (BMI) and menopausal hormone therapy (MHT) use. Methods: In the prospective UK Million Women Study, 1,233,177 postmenopausal women without prior cancer, mean age 56 (SD 5) years, reported their alcohol consumption in median year 1998 (IQR 1998-1999), and were followed by record-linkage for incident cancer. 438,056 women who drank no alcohol or < 1 drink/week were excluded. Cox regression yielded adjusted relative risks (RRs) and 95% confidence intervals (CIs) for 21 cancers by alcohol amount; statistical significance of interactions with smoking, BMI and MHT use was assessed after allowing for multiple testing. Results: In 795,121 participants, mean consumption was 6.7 (SD 6.4) alcoholic drinks/week. During 17 (SD 5) years of follow-up, 140,203 incident cancers were recorded. There was strong evidence for a substantial association between alcohol intake and risk of upper aero-digestive cancers (oesophageal squamous cell carcinoma, oral cavity, pharynx and larynx; RR per 1 drink/day = 1.38 [95% CI 1.31-1.46]). There was also strong evidence for more moderate positive associations with breast, colorectal and pancreatic cancer (RRs per 1 drink/day = 1.12 [1.10-1.14], 1.10 [1.07-1.13], 1.08 [1.02-1.13] respectively), and moderate negative associations with thyroid cancer, non-Hodgkin's lymphoma, renal cell carcinoma and multiple myeloma (RRs per 1 drink/day = 0.79 [0.70-0.89], 0.91 [0.86-0.95], 0.88 [0.83-0.94], 0.90 [0.84-0.97] respectively). Significant interactions between alcohol and smoking were seen for upper aero-digestive cancers (RRs per 1 drink/day = 1.66 [1.54-1.79], 1.23 [1.11-1.36], 1.12 [1.01-1.25] in current, past, and never smokers respectively). BMI and MHT did not significantly modify any alcohol-associated risks. Conclusions: These findings provide robust evidence that greater alcohol intake, even within relatively moderate ranges, increases the risk of cancers of the aerodigestive tract, breast, colorectal and pancreatic cancer, and probably decreases the risk of thyroid cancer, non-Hodgkin's lymphoma, renal cell carcinoma and multiple myeloma. Associations of alcohol intake with cancer risk were not modified by MHT use, adiposity or smoking, except in the case of upper aero-digestive cancers, where the alcohol-associated risk was largely confined to smokers.