Selección de Resúmenes de Menopausia

Semana del 22 al 28 de diciembre de 2021

María Soledad Vallejo. Clínica Quilín. Universidad de Chile

Int J Environ Res Public Health. 2021 Dec 19;18(24):13368. doi: 10.3390/ijerph182413368.

Weight Change Is Associated with Osteoporosis: A Cross Sectional Study Using the Korean Community Health Survey

Hyo-Geun Choi 1 2, Bong-Cheol Kwon 3, Soo-Hwan Yim 4, Hyun Youk 5 6, Jung-Woo Lee 6 7 -22

The purpose of the present study was to analyze the associations between weight change and osteoporosis in Korean adults. Methods: Data from the 2016 Korean Community Health Survey were analyzed. A total of 159,741 participants who were ≥40 years of age were included. The histories of osteoporosis were surveyed in two ways: 'osteoporosis for entire life' and 'current osteoporosis'. The participants were grouped into three categories for simplification as follows: 'Weight L&M' (Tried to lose weight or Tried to maintain weight), 'Weight gain' (Tried to gain weight), and 'Never tried'. Additionally, we analyzed their relationship with obesity using the BMI. Results: The adjusted ORs for 'osteoporosis for entire life' were 1.20 (95% confidence interval [CI] 1.13-1.27) in the Weight L&M group and 1.83 (95% CI 1.64-2.05) in the Weight gain group. The adjusted ORs for 'current osteoporosis' were 1.16 (95% CI 1.08-1.25) in the Weight L&M group and 1.77 (95% CI 1.54-2.02) in the Weight gain group. Conclusions: Compared to the Never tried group, being in either the Weight L&M or Weight gain groups showed a significant impact on the possibility of osteoporosis.

Biomolecules. 2021 Dec 2;11(12):1815. doi: 10.3390/biom11121815.

The Role of Estrogens and Vitamin D in Cardiomyocyte Protection: A Female Perspective

Clara Crescioli 1

Women experience a dramatical raise in cardiovascular events after menopause. The decline in estrogens is pointed to as the major responsible trigger for the increased risk of cardiovascular disease (CVD). Indeed, the menopausal transition associates with heart macro-remodeling, which results from a fine-tuned cell micro-remodeling. The remodeling of cardiomyocytes is a biomolecular response to several physiologic and pathologic stimuli, allowing healthy adaptation in normal conditions or maladaptation in an unfavorable environment, ending in organ architecture disarray. Estrogens largely impinge on cardiomyocyte remodeling, but they cannot fully explain the sex-dimorphism of CVD risk. Albeit cell remodeling and adaptation are under multifactorial regulation, vitamin D emerges to exert significant protective effects, controlling some intracellular paths, often shared with estrogen signaling. In post-menopause, the unfavorable association of hypoestrogenism-D hypovitaminosis may converge towards maladaptive remodeling and contribute to increased CVD risk. The aim of this review is to overview the role of estrogens and vitamin D in female cardiac health, speculating on their potential synergistic effect in cardiomyocyte remodeling, an issue that is not yet fully explored. Further learning the crosstalk between these two steroids in the biomolecular orchestration of cardiac cell fate during adaptation may help the translational approach to future cardioprotective strategies for women health.

Rev Endocr Metab Disord. 2021 Dec 23;1-18. doi: 10.1007/s11154-021-09693-7. Online ahead of print.

Vitamin D: Dosing, levels, form, and route of administration: Does one approach fit all?

John P Bilezikian 1, Anna Maria Formenti 2, Robert A Adler 3, Neil Binkley 4, Roger Bouillon 5, et al.

The 4th International Conference on Controversies in Vitamin D was held as a virtual meeting in September, 2020, gathering together leading international scientific and medical experts in vitamin D. Since vitamin D has a crucial role in skeletal and extra-skeletal systems, the aim of the Conference was to discuss improved management of vitamin D dosing, therapeutic levels and form or route of administration in the general population and in different clinical conditions. A tailored approach, based on the specific mechanisms underlying vitamin D deficiency in different diseases that were discussed, was recommended. Specifically, in comparison to healthy populations, higher levels of vitamin D and greater amounts of vitamin D were deemed necessary in osteoporosis, diabetes mellitus, obesity (particularly after bariatric surgery), and in those treated with glucocorticoids. Emerging and still open issues were related to target

vitamin D levels and the role of vitamin D supplementation in COVID-19 since low vitamin D may predispose to SARS-CoV-2 infection and to worse COVID-19 outcomes. Finally, whereas oral daily cholecalciferol appears to be the preferred choice for vitamin D supplementation in the general population, and in most clinical conditions, active vitamin D analogs may be indicated in patients with hypoparathyroidism and severe kidney and liver insufficiency. Parenteral vitamin D administration could be helpful in malabsorption syndromes or in states of vitamin D resistance. Specific guidelines for desired levels of vitamin D should be tailored to the different conditions affecting vitamin D metabolism with the goal to define disease-specific normative values.

JAMA Netw Open. 2021 Dec 1;4(12):e2139161. doi: 10.1001/jamanetworkopen.2021.39161.

Association of the Interaction Between Mammographic Breast Density, Body Mass Index, and Menopausal Status With Breast Cancer Risk Among Korean Women

Thi Xuan Mai Tran 1, Seong-Geun Moon 1, Soyeoun Kim 2, Boyoung Park 1

Objective: To explore the association of the interaction of mammographic breast density and BMI with breast cancer risks among premenopausal and postmenopausal women. Design, setting, and participants: This study used population-based data of the Korean National Cancer Screening Program to evaluate the breast cancer risk of 3 248 941 premenopausal cancer-free women and 4 373 473 postmenopausal cancer-free women aged 40 years or older who underwent mammographic screening between January 1, 2009, and December 31, 2013, and were followed up until December 31, 2018. Statistical analysis was performed from June 1 to July 15, 2021. Exposures: Breast Imaging Reporting and Data System (BI-RADS)-defined breast density Main outcomes and measures: Adjusted relative risk (aRR) of breast cancer during the follow-up period and interactions in additive and multiplicative scales. The study end point was the development of breast cancer. Results: Of 3 248 941 premenopausal women (mean [SD] age, 44.6 [4.3] years) and 4 373 473 postmenopausal women (mean [SD] age, 59.6 [8.4] years) aged 40 years or older, 34 466 cases of breast cancer were identified among the premenopausal women, and 30 816 cases of breast cancer were identified among the postmenopausal women. Increased breast density was associated with an increased risk of breast cancer in both premenopausal and postmenopausal women across the BMI categories. Among premenopausal women, those in BI-RADS category 4 had an approximately 2-fold higher risk of breast cancer irrespective of BMI (all women: aRR, 2.36 [95% CI, 2.24-2.49]; underweight: aRR, 1.80 [95% CI, 1.25-2.59]; normal weight: aRR, 2.10 [95% CI, 1.93-2.28]; overweight: aRR, 2.47 [95% CI, 2.27-2.68]; obese: aRR, 2.87 [95% CI, 2.49-3.32]) than those with underweight status and in BI-RADS category 1. However, an association between BMI and the risk of breast cancer was found only in the postmenopausal women in all breast density categories compared with underweight women with BI-RADS category 1 (BI-RADS category 4, all women: aRR, 2.91 [95% CI, 2.78-3.04]; underweight: aRR, 2.74 [95% CI, 1.89-3.98]; normal weight: aRR, 3.05 [95% CI, 2.82-3.30]; overweight: aRR, 2.85 [95% CI, 2.67-3.04]; obese: aRR, 2.52 [95% CI, 2.22-2.88]). When the combined associations of breast density and BMI with the risk of breast cancer were considered, a high breast density and high BMI had a significant positive interaction on the additive scale for both premenopausal and postmenopausal women, especially the latter (premenopausal women: adjusted relative excess risk due to interaction, 0.53 [95% CI, 0.35-0.71]; postmenopausal women: adjusted relative excess risk due to interaction, 1.68 [95% CI, 1.26-2.10]).Conclusions and relevance: This study suggests that breast density and BMI interact synergistically to augment breast cancer risk, with a stronger association found among postmenopausal women. Both factors should be incorporated into risk stratification in a population-based screening for public health significance. Women with overweight or obesity and dense breast tissue might benefit from tailored early screening strategies to detect breast cancer.

Endocrinology. 2021 Dec 22;bqab259. doi: 10.1210/endocr/bqab259. Online ahead of print.

Estrogen and Progesterone Therapy and Meningiomas

Mirella Hage 1, Oana Plesa 1, Isabelle Lemaire 1, Marie Laure Raffin Sanson 1 2

Meningiomas are common intracranial tumors with female predominance. Their etiology is still poorly documented. The role of sexual hormones has long been evoked, and data have been conflicting across studies. However, a dose-dependent relationship between the incidence and growth of meningiomas and hormonal treatment with the progestin cyproterone acetate (CPA) has recently been established. CPA- associated meningiomas seem to be mainly located in the anterior and middle skull base, are more likely to be multiple; may harbor P1K3CA mutations in up to 1/3 of cases and are favored by a longer duration of treatment. A similar but lower risk of meningiomas has been recently reported

with the use of chlormadinone acetate and nomegestrol acetate as progestin treatments. Concerning hormonal replacement therapy (HRT) in menopausal patients, evidence from epidemiological studies seem to favor an increased risk of meningiomas in treated patients although a recent study failed to show an increased growth of meningiomas in HRT treated vs. non treated patients. Until larger studies are available, it seems wise to recommend avoiding HRT in patients with meningiomas. Evidence from published data does not seem to support an increased risk of meningiomas with oral contraceptive (OC) use. Data are too scarce to conclude on fertility treatments. Based on studies demonstrating the expression of hormonal receptors in meningiomas, therapies targeting these receptors have been tried but have failed to show an overall favorable clinical outcome in meningioma treatment.

Gynecol Endocrinol. 2021 Dec 20;1-9. doi: 10.1080/09513590.2021.2016692. Online ahead of print.

Dydrogesterone after 60 years: a glance at the safety profile

Johannes Ott 1, Christian Egarter 1, Alex Aguilera 2

Objective: To provide an evidence-based safety and tolerability overview of dydrogesterone under various progesterone-deficient conditions as a commemoration of its role in managing women's reproductive health over the past 60 years. Methods: To identify relevant publications, we used a semi-systematic approach, which included performing a structured search through the PubMed and Cochrane central databases as well as an unstructured search for publications published in English from 2010 onward with human clinical data. Results: A total of 32 relevant clinical studies were identified. Results were reported in the context of overall adverse events (AEs) and segregated according to various progesterone-deficient conditions. AEs concerning breasts (breast cancer risk), the endometrium (endometrial cancer risk), venous thromboembolism risk, and cardiovascular risk were found to be minimal when dydrogesterone was used as part of a menopausal hormone therapy regimen lasting ≤260 weeks. Vagina-related AEs, such as bleeding, discharge, irritation, and difficult coitus, occurred less frequently with dydrogesterone when used as luteal phase support in the context of assisted reproductive techniques (ARTs). However, other common AEs, such as headache, dizziness, abdominal pain, flatulence, and nausea, occurred more frequently with dydrogesterone. No maternal complications or congenital anomalies could be linked to dydrogesterone usage during ARTs or during early pregnancy to prevent recurrent miscarriages. Studies on dydrogesterone in endometriosis and premenstrual syndrome remain scarce. Conclusions: Post-approval, dydrogesterone has displayed a favorable safety and tolerability profile during its 60-year use, which is reassuring, considering its important role in managing women's reproductive health.

ACS Pharmacol Transl Sci. 2021 Nov 1;4(6):1747-1770. doi: 10.1021/acsptsci.1c00167. eCollection 2021 Dec 10.

Metformin for Cardiovascular Protection, Inflammatory Bowel Disease, Osteoporosis, Periodontitis, Polycystic Ovarian Syndrome, Neurodegeneration, Cancer, Inflammation and Senescence: What Is Next?

Moein Ala 1, Mahan Ala 2

Diabetes is accompanied by several complications. Higher prevalence of cancers, cardiovascular diseases, chronic kidney disease (CKD), obesity, osteoporosis, and neurodegenerative diseases has been reported among patients with diabetes. Metformin is the oldest oral antidiabetic drug and can improve coexisting complications of diabetes. Clinical trials and observational studies uncovered that metformin can remarkably prevent or alleviate cardiovascular diseases, obesity, polycystic ovarian syndrome (PCOS), osteoporosis, cancer, periodontitis, neuronal damage and neurodegenerative diseases, inflammation, inflammatory bowel disease (IBD), tuberculosis, and COVID-19. In addition, metformin has been proposed as an antiaging agent. Numerous mechanisms were shown to be involved in the protective effects of metformin. Metformin activates the LKB1/AMPK pathway to interact with several intracellular signaling pathways and molecular mechanisms. The drug modifies the biologic function of NF-κB, PI3K/AKT/mTOR, SIRT1/PGC-1α, NLRP3, ERK, P38 MAPK, Wnt/β-catenin, Nrf2, JNK, and other major molecules in the intracellular signaling network. It also regulates the expression of noncoding RNAs. Thereby, metformin can regulate metabolism, growth, proliferation, inflammation, tumorigenesis, and senescence. Additionally, metformin modulates immune response, autophagy, mitophagy, endoplasmic reticulum (ER) stress, and apoptosis and exerts epigenetic effects. Furthermore, metformin protects against oxidative stress and genomic instability, preserves telomere length, and prevents stem cell exhaustion. In this review, the protective effects of metformin on each disease will be discussed using the results of recent meta-analyses, clinical trials, and observational studies. Thereafter, it will be meticulously explained how metformin reprograms intracellular signaling pathways and alters molecular and cellular interactions to modify the clinical presentations of several diseases.