Selección de Resúmenes de Menopausia

Semana de 15 al 21 de septiembre 2021

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Arch Gerontol Geriatr. 2021 Sep 17;98:104530.doi: 10.1016/j.archger.2021.104530. Online ahead of print.

Association between osteosarcopenia and cognitive frailty in older outpatients visiting a frailty clinic

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Purpose: Osteosarcopenia and cognitive frailty are both risk factors for falls and fractures. The purpose of this study was to determine the association between osteosarcopenia and cognitive frailty. Materials and methods: This was a cross-sectional secondary data analysis of the Frailty Registry Study with outpatients aged ≥65 years who visited a frailty clinic at a geriatric hospital. Osteoporosis was defined as a bone mineral density < 70% of the young adult mean. Sarcopenia was diagnosed according to the Asian Working Group for Sarcopenia 2019 criteria. Cognitive frailty was defined as the coexistence of physical frailty and mild cognitive impairment. Physical frailty was evaluated according to Japanese Cardiovascular Health Study criteria, whereas mild cognitive impairment was defined as a Mini-Mental State Examination score ≥ 24 points and a score ≤ 25 points on the Japanese version of the Montreal Cognitive Assessment. We performed multivariable logistic regression analysis to investigate the association between osteosarcopenia and cognitive frailty. Results: The data of 432 patients were analysed. The prevalence of osteosarcopenia and cognitive frailty was 10.2% and 20.8%, respectively. Logistic regression analysis revealed that osteosarcopenia was independently associated with cognitive frailty with a higher odds ratio than osteoporosis or sarcopenia alone. Lost points in visuospatial abilities/executive functions and orientation were significantly associated with osteosarcopenia. Conclusions: Combination of osteoporosis and sarcopenia is more likely to be associated with physical and cognitive decline than osteoporosis and sarcopenia alone. The mechanism by which osteosarcopenia is associated with decreased visuospatial abilities/executive functions and orientation needs to be addressed.

Exp Gerontol. 2021 Sep 21;111560.doi: 10.1016/j.exger.2021.111560. Online ahead of print.

Effect of combined aerobic and resistance exercise on blood pressure in postmenopausal women: A systematic review and meta-analysis of randomized controlled trials

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Objective: The purpose of this study is to evaluate the effects of combined aerobic and resistance exercise on blood pressure (BP) in postmenopausal women. The results of this study will provide an effective means for postmenopausal women to control BP and reduce the morbidity and mortality of cardiovascular disease (CVD). Methods: Eligible studies were searched in five electronic databases until November 2020, and 11 randomized controlled trials that met the inclusion criteria were included in this systematic review and meta-analysis. The random-effects model was used to calculate overall effect sizes of weighted mean differences (WMD) and 95% confidence interval (CI). This study was registered in PROSPERO with the registration number: CRD42021225546. Results: Compared with the control group, the aerobic combined resistance exercise significantly decreased the systolic blood pressure (SBP) and diastolic blood pressure (DBP) by 0.81 mmHg (95% CI, -1.34 to -0.28) and 0.62 mmHg (95% CI, -1.11 to -0.14), respectively. The results of the meta-analysis also indicated that a significant reduction in brachial-to-ankle pulse wave velocity (baPWV) of - 1.18 m/s (95% CI, -1.81 to -0.56) and heart rate (HR) of -0.22 beats/min (95% CI: -0.42 to -0.02) after combined aerobic and resistance exercise intervention. Subgroup analysis showed that postmenopausal women ≥60 years of age who were overweight or had a normal baseline BP were more sensitive to the combined aerobic and resistance exercise. When combined aerobic and resistance exercise frequency < 3 times/week, weekly exercise time ≥ 150 min, or the duration of exercise lasted for 12 weeks, the SBP and DBP of postmenopausal women could be reduced more effectively. Conclusions: The present study indicates that combined aerobic and resistance exercise can significantly reduce BP in postmenopausal women. Accordingly, combined aerobic and resistance exercise may be an effective way to prevent and manage hypertension in postmenopausal women.

Menopause. 2021 Sep 20.doi: 10.1097/GME.0000000000001863. Online ahead of print.

Hand grip strength and health-related quality of life in postmenopausal women: a national population-based study

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Objective: Muscle strength progressively decreases after menopause. Hand grip strength (HGS) reflects overall muscle strength and may be associated with health-related quality of life (HRQoL). We aimed to assess the association between HGS and HRQoL in postmenopausal women. Methods: We used nationally representative data on 6,059 postmenopausal women from the Korea National Health and Nutrition Examination Survey (2014-2018). HGS was determined as the maximum value in kilograms (kg) achieved using either hand. HRQoL was estimated using the European Quality of Life Questionnaire-Five Dimensions (EQ-5D) questionnaire. The prevalence ratios of having moderate/severe problems on the EQ-5D were evaluated with adjustment for covariates using complex survey analysis. Results: The prevalence of having a problem in at least one of the HRQoL dimensions among postmenopausal women was 43.6%. Compared with participants with the lowest quintile of HGS, women in the highest quintile had a significantly lower prevalence of moderate/severe problems in most dimensions (fully adjusted prevalence ratios [95% confidence intervals]; 0.73 [0.60-0.89], 0.45 [0.28-0.72], 0.52 [0.38-0.71], 0.74 [0.63-0.87], and 0.91 [0.70-1.18] for mobility, self-care, usual activity, pain/discomfort, and anxiety/depression, respectively). The associations between HGS and EQ-5D index were stronger among the participants who were older (65-79 y), had a higher body mass index (≥ 25.0 kg/m2), had low physical activity, had a longer duration since menopause (≥ 10 y), and had a chronic disease. Conclusions: Higher HGS was associated with a lower prevalence of moderate/severe problems in each dimension of the EQ-5D in postmenopausal women. These associations were more apparent in individuals who were older, had higher body mass index, or had a chronic disease.

Oxid Med Cell Longev. 2021 Sep 9;2021:8101615.doi: 10.1155/2021/8101615. eCollection 2021.

Estrogen Replacement Therapy Induces Antioxidant and Longevity-Related Genes in Women after Medically Induced Menopause

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Females live longer than males in many species, including humans, and estrogens are in part responsible for this protection against aging. We reported previously that estrogens can protect rats against oxidative stress, by inducing antioxidant and longevity-related genes. Thus, this study was aimed at confirming the ability of estrogens to upregulate antioxidant and longevity-related genes in humans. For this purpose, we selected 16 women of reproductive age (18-42 years old) undergoing a fertility treatment that includes a medically induced menopause, at the Valencian Infertility Institute. We took blood samples at each time point of the treatment (basal, induced menopause, estrogen, and estrogen plus progesterone replacement therapy). mRNA expression of antioxidant and longevity-related genes in peripheral blood mononuclear cells (PBMC) was determined by real-time reverse transcriptase-polymerase chain reaction (RT-PCR). Determination of reduced glutathione (GSH) in total blood was carried out using high-performance liquid chromatography (HPLC). As expected, we found that medically induced menopause significantly decreased sexual hormone (estrogens and progesterone) levels. It also lowered glutathione peroxidase (GPx), 16S rRNA, P21, and TERF2 mRNA expression and blood GSH levels. Estrogen replacement therapy significantly restored estrogen levels and induced mRNA expression of manganese superoxide dismutase (MnSOD), GPx, 16S rRNA, P53, P21, and TERF2 and restored blood GSH levels. Progesterone replacement therapy induced a significant increase in MnSOD, P53, sestrin 2 (SENS2), and TERF2 mRNA expression when compared to basal conditions. These findings provide evidence for estrogen beneficial effects in upregulating antioxidant and longevity-related genes in women.

J Gerontol A Biol Sci Med Sci. 2021 Sep 16;glab252.doi: 10.1093/gerona/glab252. Online ahead of print.

The interrelationship between female reproductive aging and survival

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The link between survival and reproductive function is demonstrated across many species and is under both long-term evolutionary pressures and short-term environmental pressures. Loss of reproductive function is common in mammals and is strongly correlated with increased rates of disease in both males and females. However, the reproduction-associated change in disease rates is more abrupt and more severe in women, who benefit from a significant health advantage over men until the age of menopause. Young women with early ovarian failure also suffer from increased disease risks, further supporting the role of ovarian function in female health. Contemporary experiments where the influence of young ovarian tissue has been restored in post-reproductive-aged females with surgical manipulation were

found to increase survival significantly. In these experiments, young, intact ovaries were used to replace the aged ovaries of females that had already reached reproductive cessation. As has been seen previously in primitive species, when the young mammalian ovaries were depleted of germ cells prior to transplantation to the post-reproductive female, survival was increased even further than with germ cell-containing young ovaries. Thus, extending reproductive potential significantly increases survival and appears to be germ cell and ovarian hormone-independent. The current review will discuss historical and contemporary observations and theories that support the link between reproduction and survival and provide hope for future clinical applications to decrease menopause-associated increases in disease risks.

Drugs. 2021 Sep 15.doi: 10.1007/s40265-021-01587-x. Online ahead of print.

Bone Mineral Density Loss and Fracture Risk After Discontinuation of Anti-osteoporotic Drug Treatment: A Narrative Review

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The number of patients on long-term anti-osteoporotic drug therapy is rising. Unfortunately, there are few data to guide decisions about duration of pharmacologic therapy for osteoporosis. Many practitioners discontinue therapy after a period of 5 years because of the risk of rare but severe side effects that may occur in long-term users. The objective of this narrative review was to describe the effects of discontinuation of anti-osteoporotic drugs and to investigate what is not yet known on this topic. For each anti-osteoporotic agent, PubMed was searched for evidence from randomized clinical trials in patients with osteoporosis on osteoporotic drugs lasting ≥ 3 years, followed by ≥ 1 year of follow-up after discontinuation of therapy and reported at least one item of the following: changes in bone mineral density, bone turnover markers and/or the risk of vertebral and/or nonvertebral fractures after discontinuation of therapy. The% change in bone mineral density (BMD) after 1 year of discontinuation of therapy is - 0.4% or less at the hip and femoral neck in both alendronate- and zoledronic acid-treated patients. In the other reported agents (risedronate, ibandronate, raloxifene, teriparatide, denosumab and romosozumab) this percentage of bone loss at the femoral neck and total hip was at least 1%, with the largest decrease in BMD after discontinuation of denosumab and romosozumab. In all studies reporting bone turnover markers, a substantial rapid rise in these markers was observed after discontinuation of therapy, with a large rebound increase to far above baseline levels in the denosumab-treated patients. There were few data on fracture risk after discontinuation of therapy; data showed that discontinuing alendronate, zoledronic acid and especially denosumab significantly increases the risk of vertebral fractures. In conclusion, osteoporosis should be considered more as a chronic condition. Therefore, in modern fracture risk management, continuous monitoring and treatment is required, as is the case with other chronic diseases, to sustain the benefits of therapy, especially in denosumab- and romosozumab-treated patients. The exception is alendronate and zoledronic acid, in these patients a discontinuation of drug therapy of 1 year or more might be acceptable.

J Womens Health (Larchmt). 2021 Sep 14.doi: 10.1089/jwh.2021.0182. Online ahead of print.

Menopause Per se Is Associated with Coronary Artery Calcium Score: Results from the ELSA-Brasil

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Background: Menopause and aging deteriorate the metabolic profile, but little is known about how they independently contribute to structural changes in coronary arteries. We compared a broad cardiometabolic risk profile of women according to their menopausal status and investigated if menopause per se is associated with presence of coronary artery calcium (CAC) in the ELSA-Brasil. Materials and Methods: All participants, except perimenopausal women, who had menopause <40 years or from non-natural causes or reported use of hormone therapy were included. Sample was stratified according to menopause and age categories (premenopause ≤45 years, premenopause >45 years, and postmenopause); their clinical profile and computed tomography-determined CAC were compared using Kruskal-Wallis and chi squared test for frequencies. Associations of CAC (binary variable) with menopause categories adjusted for traditional and nontraditional covariables were tested using logistic regression. Results: From 2,047 participants 51 ± 9 years of age, 1,175 were premenopausal (702 ≤ 45 years) and 872 were postmenopausal women. Mean values of anthropometric variables, blood pressure, lipid and glucose parameters, branched-chain amino acids (BCAA), and homeosthasis model assessment (HOMA-IR), as well as frequencies of morbidities, were more favorable in premenopausal, particularly in younger ones. In crude analyses, CAC >0 was associated with triglyceride-rich lipoprotein remnants, dense low-density lipoprotein, BCAA, and other variables, but not with HOMA-IR. Menopause

was independently associated with CAC >0 (odds ratios 2.37 [95% confidence interval 1.17-4.81]) when compared to the younger premenopausal group. Conclusion: Associations of menopause with CAC, independent of traditional and nontraditional cardiovascular risk factors, suggest that hormonal decline per se may contribute to calcium deposition in coronary arteries.

Int J Clin Pract. 2021 Sep 13;e14851.doi: 10.1111/ijcp.14851. Online ahead of print.

The effect of vitamin D and exercise on balance and fall risk in postmenopausal women: A randomised controlled study

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Objective: To evaluate the effects of vitamin D and exercise on balance, fall risk and quality of life (QoL) in postmenopausal women. Methods: In this prospective, randomised, controlled, single-blind study postmenopausal women aged 50-70 years were included. Participants with <25nmol/L 25(OH) vitamin D were randomised to three groups: group-I (vitamin D replacement) (n = 21), group-II (core and balance exercises) (n = 18), and group-III (vitamin D replacement plus core and balance exercises) (n = 20). The participants with >75nmol/L 25(OH) vitamin D (group-IV) (n = 40) were designated as control group and received the core and balance exercises. The participants were evaluated before and after 8 weeks with Berg balance test and Biodex balance system (postural stability and fall risk tests) for balance and Nottingham Health Profile (NHP) for QoL. Results: Group IV had better baseline BBT, NHP pain, NHP emotional reactions, NHP social isolation subdomain and total score. After treatment, all groups showed significant improvement in balance (except group I, mediolateral stability index) and QoL (except group II). There was no significant difference between groups (I, II and III) after intervention. Conclusion: Vitamin D replacement therapy has positive effects on balance and QoL. Core strengthening and balance exercises are essential for better balance and fall prevention in postmenopausal women. Any superior effect of vitamin D or exercise on each other was not determined.