Selección de Resúmenes de Menopausia

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María Soledad Vallejo. Obstetricia Ginecología. Hospital Clínico. Universidad de Chile

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Preventive Effects of Resistance Training on Hemodynamics and Kidney Mitochondrial Bioenergetic Function in Ovariectomized Rats

Anne L F Queiroz 1 2, Christopher B Garcia 1, João P M O Silva 3, Diego F A Cavalini 1, André V Alexandrino, et al.

Menopause occurs due to the depletion of the ovarian reserve, leading to a progressive decline in estrogen (E2) levels. This decrease in E2 levels increases the risk of developing several diseases and can coexist with chronic kidney disease (CKD). Arterial hypertension (AH) is another condition associated with menopause and may either contribute to or result from CKD. Ovariectomy (OVX) induces hypoestrogenism, which can lead to mitochondrial bioenergetic dysfunction in the kidneys. Previous studies have suggested that exercise training has beneficial effects on adults with CKD and AH. To investigate the effects of OVX and resistance training (RT) on hemodynamic parameters and mitochondrial bioenergetic function of the kidney, female Wistar rats were divided into ovariectomized (OVX) and intact (INT) groups. These rats were either kept sedentary (SED) or subjected to RT for thirteen weeks. The RT involved climbing a vertical ladder with a workload apparatus. Hemodynamic parameters were assessed via tail plethysmography. Mitochondrial respiratory function was evaluated with high-resolution respirometry. Gene expression related to the electron transport chain (ETC) and oxidative phosphorylation (OXPHOS) was evaluated by real-time qPCR. At week 13, key hemodynamic parameters (systolic blood pressure and mean arterial pressure) were significantly elevated in the OVX-SED group. Compared with those in the other groups, mitochondrial bioenergetics were impaired in the OVX-SED group. In contrast, the trained groups presented improved mitochondrial bioenergetic function compared with the sedentary groups. OVX led to reduced gene expression related to the mitochondrial ETC and OXPHOS, whereas RT both prevented this reduction and increased gene expression in the trained groups. Our results indicate that hypoestrogenism significantly decreases OXPHOS and ETC capacity in the kidneys of sedentary animals. However, RT effectively increased the expression of genes related to mitochondrial ETC and OXPHOS, thereby counteracting the effects of OVX.

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How the development of chronic morbidity and multimorbidity depends on natural age of menopause: Results from nationally representative cross-sectional Indian study

Pritam Halder 1, Shubham Kansal 2, Kartik Chadhar 3, Aswani Seth 4, Semanti Das 5, Saumyarup Pal 6, et al.

Background: Multimorbidity development is linked with the age at menopause. Fewer studies are available to support the findings. This study was conducted to find, how multimorbidity is associated with the natural age of menopause. Methodology: LASI-1, a longitudinal study, collected detailed information on the psychological, social, economic, and health aspects of aging in India. Wave-1 data collection was done in all 35 states and union territories in India. Baseline data was collected from year 2017-2019. As the current study was a secondary data analysis to find the association between multimorbidity and age of menopause, only eligible women's relevant data was analyzed. Results: A total of 25,256 women were analyzed, 67.8% of participants had at least one comorbidity. The mean age was 58.5 ± 10.17 years. 57.04% and 13.45% women had optimal or suboptimal menopause, while 7.4%, 17.5%, and 4.4% had premature, early, and delayed menopause. A significant association was found for the presence of multimorbidity and premature (AOR 1.19 (1.07-1.32)), early menopause (AOR 1.18 (1.10-1.27)), and optimal age of menopause (AOR 0.83 (0.78-0.88)). Conclusion: There is a high burden of multimorbidity and it is associated with the natural age of menopause. This study would be helpful for effective policymaking and a better primary healthcare approach to deal with the condition.

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Menopausal hormone therapy is associated with worse levels of Alzheimer's disease biomarkers in APOE ε4-carrying women: An observational study

Ainara Jauregi-Zinkunegi 1, Carey E Gleason 2 3 4, Barbara Bendlin 3 5, Ozioma Okonkwo, Bruce P Hermann, et al.

Introduction: Menopausal hormone therapy (MHT), along with the apolipoprotein E (APOE) ε4 allele, has been suggested as a possible risk factor for Alzheimer's disease (AD). However, the relationship between MHT and cerebrospinal fluid (CSF) biomarkers is unknown: we investigated this association, and whether APOE ε4 carrier status moderates it. Methods: In an observational study of 136 cognitively unimpaired female participants (Mage = 66.0; standard deviation = 6.3), we examined whether MHT use alone or in interaction with APOE ε4 carrier status was associated with CSF levels of phosphorylated tau (p-tau), amyloid beta (Aβ)40, Aβ42, p-tau/Aβ42, and Aβ42/40 ratios. Results: Significant interactions were found between APOE ε4 and MHT use for CSF biomarkers. APOE ε4 carriers who were MHT users showed worse levels of CSF p-tau/Aβ42 and Aβ42/40 ratios than all other users and non-users. Discussion: The presence of both APOE ε4 and MHT may be associated with elevated amyloid deposition and AD pathology in this sample of participants who demonstrated high familial AD risk. Highlights: Significant interactions were found between apolipoprotein E (APOE) ε4 and menopausal hormone therapy (MHT) use for cerebrospinal fluid (CSF) phosphorylated tau (p-tau)/amyloid beta (Aβ)42 and Aβ42/40 ratios. APOE ε4 carriers who were MHT users showed worse levels of CSF biomarkers than non-users and non-carriers, both users and non-users. Younger age at MHT initiation was associated with worse levels of the p-tau/Aβ42 and Aβ42/40 ratios in carriers only. The presence of both APOE ε4 carriage and MHT use may be associated with elevated amyloid deposition and AD pathology. Further studies with larger sample sizes are necessary to confirm the differences observed in the current study.

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How Accurately Does Bone Mineral Density Predict Bone Strength? A Clinical Observational Study of Osteoporosis Vertebral Compression Fractures in Postmenopausal Women

Xuemeng Mu 1, Hengyan Zhang 1, Jia Zhang 1

Objectives: Dual energy x-ray absorptiometry (DXA) provides incomplete information about bone strength. There are few data on the relationship between osteoporosis-related examinations and bone strength. The objective of the present study was to determine which osteoporosis-related examinations best predicted trabecular bone strength, and to enhance a formula for predicting bone strength on the basis of bone density examination. Methods: This observational study included postmenopausal women (aged over 50 years) who underwent unilateral percutaneous kyphoplasty (PKP) surgery in the lumbar spine between September 2021 and June 2023. The pressure within each balloon expansion circle was extracted to reflect the true bone strength. The NHANES 2013-2014 data were used to assess the performance of the formula. The performance of the formula was compared with that of the observed actual fractures. Bland-Altman analysis was used to compare the agreement between the formula and the fracture risk assessment tool (FRAX) score. Results: A total of 40 postmenopausal women (mean age ± standard deviation, 70.90 years ± 10.30) were enrolled. The average balloon pressure was 59.23 psi (± 12.40, means ± SDs). The mean BMD of total lumbar spine (average of L1-L4) was 0.89 g/cm2 ± 0.20 (mean ± standard), and the Pearson correlation coefficient between lumbar BMD and bone strength was 0.516. After adjusting for age and BMI, the DXA response rate to bone strength reached 72%. Calibration plots of the observed actual fractures versus those estimated via the bone strength formula were considered good fits. The Bland-Altman analysis revealed a nonsignificant difference between the formula and the FRAX score in predicting fracture risk. Conclus ions: After adjustment, the DXA response rate to bone strength reached 72%, indicating a strong correlation. In addition, Bone Strength = DXA × 27 - Age × 0.585-BMI × 0.887 + 98.

Menopause. 2025 Jan 7. doi: 10.1097/GME.0000000000002485. Online ahead of print.

Prevalence of urinary tract infections in women with vulvovaginal atrophy and the impact of vaginal prasterone on the rate of urinary tract infections

Rachel Rubin 1, May Sanaee 2, Alyssa Yee 3, Erick Moyneur 4, Katherine Dea 4, Alain Y Dury 5

Objective: The aims of this study were to assess the prevalence of urinary tract infections (UTI) in women newly diagnosed with vulvovaginal atrophy (VVA) versus women without VVA and to evaluate the potential of vaginal prasterone to be used in postmenopausal VVA women with UTI as prophylaxis to reduce the future UTI risk. As a first subgroup analysis, women using aromatase inhibitors, medications that stop the production of estrogen were analyzed.

As a second subgroup analysis, we looked at women with diabetes to investigate whether the same prophylaxis approach should be considered. Methods: This observational retrospective inception cohort study was conducted using the Integrated Dataverse open-source claims database with data from February 2015 through January 2020. Results: A total of 22,245 women treated with prasterone for a minimum of 12 weeks were matched to women without any prescribed VVA-related treatment. Overall, women treated with prasterone have a significantly lower UTI prevalence compared to those untreated (6.58% vs 12.3%; P < 0.0001). The highest difference in UTI prevalence among the prasterone treated and untreated women was observed in those aged 65-74 (7.15% vs 16.2%; P < 0.0001). Among aromatase inhibitor users and women with diabetes, those treated with prasterone have a significantly lower UTI prevalence (4.90% vs 9.79%; P < 0.01 and 14.59% vs 20.48%; P < 0.0001, respectively). Conclusions: This study suggests that intravaginal prasterone may be a good candidate for prophylaxis in postmenopausal women with UTI to reduce future UTI risk, including for women taking aromatase inhibitors and women with diabetes. This study is based on real-world evidence and warrants further investigation in a clinical setting.

BMC Womens Health. 2025 Jan 7;25(1):11. doi: 10.1186/s12905-025-03547-z.

Global, regional, and national burden of anxiety disorders during the perimenopause (1990-2021) and projections to 2035

Ying Zhang 1, Ting-Ting Hu 2, Yong-Ran Cheng 3, Zhi-Fen Zhang 4, Jun Su 5 6

Purpose: Perimenopause is associated with an increased risk of anxiety disorders, largely due to hormonal changes affecting the body's regulatory feedback mechanisms. This study aims to provide a comprehensive analysis of the global burden of anxiety disorders among perimenopausal women. Methods: Data from the 2021 Global Burden of Disease (GBD) database were utilized to assess disability-adjusted life years associated with anxiety disorders linked to perimenopause. We calculated trends using the estimated average percent change, and future projections were made using the Bayesian age-period-cohort model to estimate disability-adjusted life year trends for anxiety disorders from 2022 to 2035. Results: Between 1990 and 2021, the global age-standardized disability-adjusted life year rate for anxiety disorders among perimenopausal women increased from 625.51 (95% uncertainty interval: 429.1-891.09) to 677.15 (95% uncertainty interval: 469.45-952.72), indicating a rising trend with an estimated average percent change of 0.081 (95% confidence interval: 0.0043-0.143). Regional differences were noted, with anxiety disorder burdens varying across areas with different sociodemographic index levels. Projections suggest that by 2035, the global burden of anxiety disorders in perimenopausal women will rise to 1,180.43 per 100,000, a 40.67% increase compared with 2021 levels. Conclusion: The burden of anxiety disorders during perimenopause is a growing global concern, with a significant increase anticipated in the coming years. Targeted prevention and intervention strategies are urgently needed to mitigate this rising burden and improve mental health outcomes during perimenopause.

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A bio-psycho-social investigation of menopause transition and job satisfaction

Carol Atkinson 1, Fiona Carmichael 2, Jo Duberley 3

Objectives: To examine the implications of menopause transition for job satisfaction within a framework that integrates bio-psycho-social factors and effects. Study design: The study analyses quantitative and qualitative data from a survey of 1684 women in three UK police forces, where growing numbers work during menopause transition within what has been termed a hyper-masculine culture. Results: We evidence that job satisfaction is negatively impacted by experience of menopause symptoms. Attitudes towards age and menopause are also important: job satisfaction is lower for peri- and post-menopausal women with negative attitudes and higher for women with more positive and open attitudes. Some workplace factors such as shift working and the gender balance of the workplace also have a significant impact on the job satisfaction of women transitioning menopause. Conclusion: Our results highlight the need for human resource practices that go beyond the typical focus on symptoms. Support mechanisms need to address attitudes towards menopause and develop more inclusive workplaces in order to maintain women's job satisfaction and retain them in the workplace during menopause transition.

medRxiv [Preprint]. 2024 Dec 20:2024.12.19.24319271. doi: 10.1101/2024.12.19.24319271.

Timing of Menarche and Menopause and Epigenetic Aging among U.S. Adults: Results from the National Health and Nutrition Examination Survey 1999-2002

Saher Daredia 1, Dennis Khodasevich 2, Nicole Gladish 2, Hanyang Shen 2, Jamaji C Nwanaji-Enwerem 3 4, et al.
Reproductive aging, including timing of menarche and menopause, influences long-term morbidity and mortality in women, yet underlying biological mechanisms remain poorly understood. Using DNA methylation-based biomarkers, we assessed associations of age at menarche (N=1,033) and menopause (N=658) with epigenetic aging in a nationally representative sample of women ≥50 years. Later age at menopause was associated with lower GrimAge epigenetic age deviation (B = -0.10 years, 95% CI: -0.19, -0.02). No associations were observed for menarche timing. This suggests a connection between earlier menopause and biological aging, with potential clinical implications for identifying those at high risk for age-related disease.