Selección de Resúmenes de Menopausia

Semana del 20al 26 de enero 2021

María Soledad Vallejo. Clínica Quilín. Universidad de Chile

PLoS One. 2021 Jan 22;16(1):e0245166.doi: 10.1371/journal.pone.0245166. eCollection 2021.

Estrogen is required for maintaining the quality of cardiac stem cells

Al Shaimaa Hasan 1 2 , Lan Luo 1 3 , Satoko Baba 1 , Tao-Sheng Li 1

Compared to the age-matched men, the incidence of cardiovascular diseases is lower in premenopausal but higher in postmenopausal women, suggesting the cardio-protective role of estrogen in females. Although cardiac stem cells (CSCs) express estrogen receptors, yet the effects of estrogen on CSCs remain unclear. In this study, we investigated the potential role of estrogen in maintaining the quality of CSCs by in vivo and in vitro experiments. For the in vivo study, estrogen deficiency was induced by ovariectomy in 6-weeks-old C57BL/6 female mice, and then randomly given 17β-estradiol (E2) replacements at a low dose (0.01 mg/60 days) and high dose (0.18 mg/60 days), or vehicle treatment. All mice were killed 2 months after treatments, and heart tissues were collected for ex vivo expansion of CSCs. Compared to age-matched healthy controls, estrogen deficiency slightly decreased the yield of CSCs with significantly lower telomerase activity and more DNA damage. Interestingly, E2 replacements at low and high doses significantly increased the yield of CSCs and reversed the quality impairment of CSCs following estrogen deficiency. For the in vitro study, twice-passaged CSCs from the hearts of adult healthy female mice were cultured with the supplement of 0.01, 0.1, and 1 μM E2 in the medium for 3 days. We found that E2 supplement increased c-kit expression, increased proliferative activity, improved telomerase activity, and reduced DNA damage of CSCs in a dose-dependent manner. Our data suggested the potential role of estrogen in maintaining the quality of CSCs, providing new insight into the cardio-protective effects of estrogen.

Osteoporos Int. 2021 Jan 21.doi: 10.1007/s00198-021-05845-2. Online ahead of print.

Does treatment with bisphosphonates protect against fractures in real life? The HUNT study, Norway

M Hoff, E Skovlund, H E Meyer, A Langhammer, A J Søgaard, U Syversen, K Holvik, B Abrahamsen, B Schei.

Introduction: The objective was to examine if treatment with bisphosphonates (BPs) was associated with reduced risk of fractures in the hip and forearm in women and men in the general population. Methods: In a cohort study based on data from the third wave of the population-based HUNT Study (HUNT3), the fracture registry in Nord-Trøndelag, and the Norwegian Prescription Database, 14,990 women and 13,239 men 50-85 years were followed from the date of participating in HUNT3 (2006-2008) until the date of first fracture in the hip or forearm, death, or end of study (31 December 2012). Hazard ratios with 95% confidence intervals for hip and forearm fracture according to use of BPs were estimated using Cox proportional hazards models with time-dependent exposure. Adjustment for individual FRAX® fracture risk assessment scores was included. Results: BPs, predominantly alendronate, were used by 9.4% of the women and 1.5% of the men. During a median of 5.2 years of follow-up, 265 women and 133 men had a hip fracture, and 662 women and 127 men had a forearm fracture. Compared with non-users of BPs, the hazard ratios with 95% confidence interval for a fracture among users of BPs adjusted for age and FRAX® were 0.67 (0.52-0.86) for women and 1.13 (0.50-2.57) for men. Among users of glucocorticoids, the corresponding figures were 0.35 (0.19-0.66) and 1.16 (0.33-4.09), respectively. Conclusions: Use of BPs was associated with reduced risk of fractures in hip and forearm in women, and the magnitude of effect is comparable to results from RCTs.

Neuroreport. 2021 Jan 18.doi: 10.1097/WNR.0000000000001592. Online ahead of print.

Sleep quality and cortical amyloid-β deposition in postmenopausal women of the Kronos early estrogen prevention study

Burcu Zeydan 1 , Val J Lowe, Nirubol Tosakulwong, Timothy G Lesnick, Matthew L Senjem, Clifford R Jack Jr, Julie A Fields, Taryn T James, Carey E Gleason, N Maritza Dowling, Virginia M Miller, Kejal Kantarci

Hormone therapy improves sleep in menopausal women and recent data suggest that transdermal 17β-estradiol may reduce the accumulation of cortical amyloid-β. However, how menopausal hormone therapies modify the associations of amyloid-β accumulation with sleep quality is not known. In this study, associations of sleep quality with cortical

amyloid-β deposition and cognitive function were assessed in a subset of women who had participated in the Kronos early estrogen prevention study. It was a randomized, placebo-controlled trial in which recently menopausal women (age, 42-58; 5-36 months past menopause) were randomized to (1) oral conjugated equine estrogen (n = 19); (2) transdermal 17β-estradiol (tE2, n = 21); (3) placebo pills and patch (n = 32) for 4 years. Global sleep quality score was calculated using Pittsburgh sleep quality index, cortical amyloid-β deposition was measured with Pittsburgh compound-B positron emission tomography standard uptake value ratio and cognitive function was assessed in four cognitive domains 3 years after completion of trial treatments. Lower global sleep quality score (i.e., better sleep quality) correlated with lower cortical Pittsburgh compound-B standard uptake value ratio only in the tE2 group (r = 0.45, P = 0.047). Better global sleep quality also correlated with higher visual attention and executive function scores in the tE2 group (r = -0.54, P = 0.02) and in the oral conjugated equine estrogen group (r = -0.65, P = 0.005). Menopausal hormone therapies may influence the effects of sleep on cognitive function, specifically, visual attention and executive function. There also appears to be a complex relationship between sleep, menopausal hormone therapies, cortical amyloid-β accumulation and cognitive function, and tE2 formulation may modify the relationship between sleep and amyloid-β accumulation.

J Am Heart Assoc. 2021 Jan 20;e017416.doi: 10.1161/JAHA.120.017416. Online ahead of print.

Menopausal Vasomotor Symptoms and Risk of Incident Cardiovascular Disease Events in SWAN

Rebecca C Thurston 1 2 , Helen E Aslanidou Vlachos 2 , Carol A Derby 3 , Elizabeth A Jackson 4 , Maria Mori Brooks 2 , Karen A Matthews 1 2 , Sioban Harlow 5 , Hadine Joffe 5 6 , Samar R El Khoudary 2

Background Cardiovascular disease (CVD) in women has unique features, including associations with reproductive factors that are incompletely understood. Vasomotor symptoms (VMS), the classic menopausal symptom, are linked to CVD risk factors and subclinical CVD. Evidence linking VMS to CVD events is limited. We tested whether frequent and/or persistent VMS were associated with increased risk for fatal and nonfatal CVD events in SWAN (Study of Women's Health Across the Nation). Methods and Results A total of 3083 women, aged 42 to 52 years at baseline, underwent up to 16 in-person visits over 22 years. Assessments included questionnaires on VMS frequency (0, 1-5, or ≥6 days/2 weeks), physical measures, phlebotomy, and reported CVD events (myocardial infarction, stroke, heart failure, and revascularization). A subset of events was adjudicated via medical record. Death certificates were obtained. Relationships between baseline VMS or persistent VMS over the follow-up (proportion of visits with frequent VMS) with combined incident nonfatal and fatal CVD were tested in Cox proportional hazards models adjusted for demographics, medication use, and CVD risk factors. Participants experienced 231 CVD events over the follow-up. Women with frequent baseline VMS had an elevated risk of subsequent CVD events (relative to no VMS; ≥6 days: hazard ratio [HR] [95% CI], 1.51 [1.05-2.17], P=0.03; 1-5 days: HR [95% CI], 1.02 [0.75-1.39], P=0.89, multivariable). Women with frequent VMS that persisted over time also had an increased CVD event risk (>33% versus ≤33% of visits: HR [95% CI], 1.77 [1.33-2.35], P<0.0001, multivariable). Conclusions Frequent and persistent VMS were associated with increased risk of later CVD events. VMS may represent a novel female-specific CVD risk factor.