



Selección de Resúmenes de Menopausia

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Multiple sclerosis at menopause: Potential neuroprotective effects of estrogen.

Christianson MS, Mensah VA, Shen W.

Multiple sclerosis (MS) is an autoimmune demyelinating and neurodegenerative condition of the central nervous system that preferentially afflicts women more than men. Low estrogen states such as menopause and the postpartum period favor exacerbations of multiple sclerosis in women with the disease. Existing and emerging evidence suggests a role for estrogen in the alleviation of symptoms and reversal of pathology associated with MS. While clinical evidence is sparse regarding the benefit of estrogen therapy for women at risk for MS exacerbations, scientific data demonstrates that estrogen potentiates numerous neuroprotective effects on the central nervous system (CNS). Estrogens play a wide range of roles involved in MS disease pathophysiology, including increasing antiinflammatory cytokines, decreasing demyelination, and enhancing oxidative and energy producing processes in CNS cells.

Front Neurosci. 2014 Dec 8;8:388. doi: 10.3389/fnins.2014.00388. eCollection 2014.

Functional and molecular neuroimaging of menopause and hormone replacement therapy.

Comasco E, Frokjaer VG, Sundström-Poromaa I.

The level of gonadal hormones to which the female brain is exposed considerably changes across the menopausal transition, which in turn, is likely to be of great relevance for neurodegenerative diseases and psychiatric disorders. However, the neurobiological consequences of these hormone fluctuations and of hormone replacement therapy in the menopause have only begun to be understood. The present review summarizes the findings of thirty-five studies of human brain function, including functional magnetic resonance imaging, positron and single-photon computed emission tomography studies, in peri- and postmenopausal women treated with estrogen, or estrogen-progestagen replacement therapy. Seven studies using gonadotropin-releasing hormone agonist intervention as a model of hormonal withdrawal are also included. Cognitive paradigms are employed by the majority of studies evaluating the effect of unopposed estrogen or estrogen-progestagen treatment on peri- and postmenopausal women's brain. In randomized-controlled trials, estrogen treatment enhances activation of fronto-cingulate regions during cognitive functioning, though in many cases no difference in cognitive performance was present. Progestagens seems to counteract the effects of estrogens. Findings on cognitive functioning during acute ovarian hormone withdrawal suggest a decrease in activation of the left inferior frontal gyrus, thus essentially corroborating the findings in postmenopausal women. Studies of the cholinergic and serotonergic systems indicate these systems as biological mediators of hormonal influences on the brain. More, hormonal replacement appears to increase cerebral blood flow in several cortical regions. On the other hand, studies on emotion processing in postmenopausal women are lacking. These results call for well-powered randomized-controlled multi-modal prospective neuroimaging studies as well as investigation on the related molecular mechanisms of effects of menopausal hormonal variations on the brain.

Biol Reprod. 2014 Dec 23. pii: biolreprod.114.118638. [Epub ahead of print]

Effect of Vaginal or Systemic Estrogen on Dynamics of Collagen Assembly in the Vaginal Wall.

Montoya TI, Maldonado PA, Acevedo JF, Word RA.

The objective of this study was to compare effects of systemic and local estrogen (E) treatment on collagen assembly and biomechanical properties of the vaginal wall. Ovariectomized nulliparous rats were treated with estradiol or conjugated equine estrogens (CEE) systemically, vaginal CEE or vaginal placebo cream x 4 wks. Low-dose local CEE treatment resulted in increased vaginal epithelial thickness and significant vaginal growth without uterine hyperplasia. Further, vaginal wall distensibility increased without compromise of maximal force at failure. Systemic estradiol resulted in modest increases in collagen type 1 with no change in collagen type 3 mRNA. Low-dose vaginal

treatment, however, resulted in dramatic increases in both collagen subtypes whereas moderate and high dose local therapies were less effective. Consistent with mRNA results, low-dose vaginal estrogen resulted in increased total- and cross-linked collagen content. The inverse relationship between vaginal dose and collagen expression may be explained in part by progressive downregulation of estrogen receptor (ER α) mRNA with increasing estrogen dose. We conclude that, in this menopausal rat model, local estrogen treatment increased total and cross-linked collagen content and markedly stimulated collagen mRNA expression in an inverse dose-effect relationship. High-dose vaginal estrogen resulted in downregulation of ER α and loss of estrogen-induced increases in vaginal collagen. These results may have important clinical implications regarding the use of local vaginal estrogen therapy and its role as an adjunctive treatment in women with loss of vaginal support.

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Relation between oxidative stress and climacteric symptoms in early postmenopausal women.

Cagnacci A, Cannoletta M, Palma F, Bellafronte M, Romani C, Palmieri B.

ABSTRACT Objectives: To evaluate the relation between climacteric symptoms or other risk factors for cardiovascular disease and oxidative status of postmenopausal women. Methods: Cross-sectional investigation performed at the outpatient service for the menopause at University hospital, on 50 apparently healthy women in physiological post-menopause. Whole blood free oxygen radicals (FORT), free oxygen radical defence (FORD) age, months since menopause, weight, body mass index (BMI), waist girth, waist to hip ratio (WHR), estradiol, lipids, glucose, insulin, insulin resistance (glucose/insulin and HOMA-IR), and fibrinogen were evaluated. The Greene's scale with its subscales was used to evaluate climacteric symptoms. The pulsatility index (PI), an index of downstream blood flow resistance, was determined for both the internal carotid and the brachial artery. Results: WHR ($r=0.540$; $p<0.0001$), estradiol ($r=0.548$; $p<0.0004$) and waist ($r=0.345$; $p<0.02$) were independently related to blood FORT. Score of the Greene's vasomotor sub-scale was the only parameter independently related to blood FORD ($r=0.55$; $p<0.0001$). FORT was not related to artery PI, while FORD was negatively related to the PI of both internal carotid ($r=0.549$; $p<0.0001$) and brachial ($r=0.484$; $p<0.0001$) artery. Discussion: In postmenopausal women, abdominal adiposity and hypoestrogenism increase oxidative stress. Climacteric symptoms, particularly vasomotor symptoms, markedly reduce antioxidant defences. Lower antioxidant defences are associated with higher resistance to blood flow of great arteries. In women early after the menopause, visceral fat, hypo-estrogenism, and climacteric symptoms may increase the risk for cardiovascular disease.

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The association between vasomotor symptoms and metabolic health in peri- and postmenopausal women: A systematic review.

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The objective of this study was to systematically review studies describing the association between vasomotor symptoms and metabolic syndrome, type 2 diabetes and insulin resistance in peri- and postmenopausal women. A systematic search of studies was performed in EMBASE, MEDLINE, Web-of-science, Scopus, PubMed publisher, Cochrane Library, Google scholar. To identify studies eligible for inclusion, the following criteria were defined: randomised trials, cohort, case-control, and cross-sectional studies investigating the association between vasomotor symptoms and metabolic syndrome, type 2 diabetes and insulin resistance in peri- and postmenopausal women with natural menopause. Methodological quality was assessed using a modified Newcastle Ottawa Assessment Scale. After screening 2660 titles and abstracts, four studies, of which two cohort studies met the criteria of high methodological quality, were included in the review. Because of the heterogeneity and the limited number of studies, there is no sufficient evidence on the potential role of vasomotor symptoms in metabolic health. However, both high-quality cohort studies, with large study populations and adjustment for multiple confounding variables showed positive associations between vasomotor symptoms and insulin resistance and type 2 diabetes mellitus. These findings suggest that there is an association between vasomotor symptoms and metabolic health outcomes. To confirm this and to strengthen the evidence, more high quality longitudinal research on this topic is needed.

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Association between quality of the diet and cardiometabolic risk factors in postmenopausal women.

de Almeida Ventura D, de Matos Fonseca V, Ramos EG, Marinheiro LP, de Souza RA, de Miranda Chaves CR, Peixoto MV.

Climateric is a phase of women's life marked by the transition from the reproductive to the non-reproductive period. In addition to overall weight gain, the menopause is also associated with the increase of abdominal fat. We used The Healthy Eating Index as a summary measure to evaluate the major components and the quality of women's diet after the onset of the menopause. This study aims at examining the association between the quality of the diet and cardiometabolic risk factors in postmenopausal women. **METHODS:** Cross-sectional study including 215 postmenopausal women attending a public outpatient clinic. The 24-hour dietary recall method was used to assess the food intake and to establish the Healthy Eating Index. Diets were then classified as appropriate diet (>80 points), diet "requiring improvement" (80-51 points), and poor diet (<51 points). Cardiometabolic risk factors included abdominal obesity, dyslipidemia, diabetes mellitus, and hypertension. The Fisher's exact test was utilized for the Statistical analysis. **RESULTS:** The analysis of the food intake showed that the average daily intake of lipids (36.7%) and sodium (2829.9 mg) were above the recommended. Only 8.8% of the women performed moderate or intense physical exercises on a regular basis. The diet was considered poor in 16.3%, "requiring improvement" in 82.8%, and appropriate for only 0.9% of the women. The study detected increased waist circumference in 92.1% of the participants. The mean concentration of triglycerides was of 183.3 mg/dl, and 130.7 mg/dl for cholesterol (Low Density Lipoprotein). **CONCLUSION:** Women consume a low quality diet, possibly due to the low intake of vegetables and fruits and excessive consumption of sodium. These inappropriate eating habits are associated with and, have a negative impact on the cardiometabolic risk factors such as abdominal obesity.