Selección de Resúmenes de Menopausia

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Biomarkers of Cellular Senescence in Type 2 Diabetes Mellitus

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Although animal studies have linked cellular senescence to the pathogenesis and complications of type 2 diabetes mellitus (T2DM), there is a paucity of corroborating data in humans. Thus, we measured a previously validated marker for senescent cell burden in humans, T-cell expression of p16 mRNA, along with additional biomarkers, to compare the senescence phenotypes of postmenopausal control (lean, N = 37) and T2DM (N = 27) participants. To control for effects of obesity alone, we included a third group of obese but non-diabetic women (N = 29) who were matched for body mass index to the T2DM participants. In addition, given the increase in fracture risk in T2DM despite preserved or even increased bone mineral density, we related these senescence biomarkers in the T2DM participants to skeletal microarchitectural parameters. Relative to the lean participants, T-cell p16 and p21Cip1 expression was increased in the T2DM, but not the obese, non-diabetic participants. Expression of p16 and p21Cip1 was positively associated with HbA1c and an index of skin advanced glycation end-products. T2DM was also associated with an increase in a number of SASP factors. Among participants with T2DM, women in the highest tertile for T-cell expression of p16 had significantly reduced tibial cortical area and thickness as compared to those in the lower two tertiles. Overall, our studies link cellular senescence to metabolic and skeletal alterations in T2DM and point to the need for further studies evaluating the role of cellular senescence in mediating skeletal fragility, as well as potentially other complications in T2DM.

Endocr Metab Immune Disord Drug Targets. 2025 May 26. doi: 10.2174/0118715303375795250521041740.

Worldwide Prevalence of Dyslipidemia in Diabetes: An Umbrella Overview of the Meta-Analysis Studies

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Background: Dyslipidemia, a modifiable risk factor for Cardiovascular Diseases (CVDs), is prevalent among individuals with Diabetes Mellitus (DM). The coexistence of DM and dyslipidemia exacerbates the burden of CVDs. Given the variability in findings across systematic reviews, this umbrella review aims to assess the prevalence of dyslipidemia among diabetic patients critically.Method: A systematic search was performed across PubMed, Scopus, Web of Science, and Embase databases to identify meta-analyses addressing the prevalence of dyslipidemia in patients with DM. Studies were selected in accordanc e with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Meta-analyses that provided data on the prevalence or mean difference of lipid profile components in diabetic patients were included. To evaluate study quality, the Assessment of Multiple Systematic Reviews-2 (AMSTAR-2) and Grading of Recommendations Assessment, Development, and Evaluation (GRADE) frameworks were applied, ensuring the reliability and consistency of the findings. Results: Eleven meta-analyses with a total sample size ranging from 433 to 354,088 participants were included. The prevalence of overall dyslipidemia varied between 60% and 65.68%. Specific lipid abnormalities were also prevalent: high total cholesterol (34.7-38.6%), elevated triglycerides (43-52.7%), high low-density lipoprotein cholesterol (34.4-41%), and low high-density lipoprotein cholesterol (43.4-50%). Gender differences were insignificant, with a higher prevalence of dyslipidemia among women compared to men, particularly after menopause (19% vs. 18%). Conclusion: Dyslipidemia is highly prevalent among diabetic patients, with significant gender- specific patterns, particularly affecting postmenopausal women. These findings highlight the importance of early screening and targeted management of lipid abnormalities in DM patients to reduce the risk of vascular complications. Furthermore, the assessment indicated that most included studies were of low or very low quality, highlighting the need for more robust research in this field.

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The relationship between hysterectomy, menopause, and tubal ligation, with coronary heart diseases in North of Iran: a population-based case-control study

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Previously, menopause, hysterectomy, and tubal ligation (TL) have been evaluated as coronary heart disease (CHD) risk factors. However, the results regarding the significance of these associations were conflicting. Thus, the present study aimed to assess whether hysterectomy, menopause, and TL increase the odds of CHD. This case-control study included data from the enrollment phase of the Tabari cohort study (TCS) consisting of 564 cases of CHD and 564 healthy controls. Logistic regression was used to calculate the odds ratio (OR) of CHD in relation to hysterectomy, menopause, and TL status after adjustment for confounders. The univariate logistic regression analysis showed a significantly higher odds of CHD among post-menopausal participants (OR: 5.09, 95%CI 3.92-6.61), participants with TL (OR: 1.81, 95%CI 1.41-2.32), and women with hysterectomy (OR: 2.43, 95%CI 1.69-3.50). However, none of the associations were statistically significant (Hysterectomy: OR: 1.21, 95%CI 0.8-1.85; Menopause: OR: 1.43, 95%CI 0.88-2.31; TL: OR: 1.01, 95%CI 0.74-1.37) in the fully adjusted model (after adjustment for age, diabetes, hypertension, residential area, waist-to-hip ratio, pregnancy number, socio-economic state, occupation, education, and physical activity). Although some models showed significance, none of the reproductive factors showed a significant association with CHD after full adjustment.

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Menopausal hormone therapy and the female brain: Leveraging neuroimaging and prescription registry data from the UK Biobank cohort

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Background: Menopausal hormone therapy (MHT) is generally thought to be neuroprotective, yet results have been inconsistent. Here, we present a comprehensive study of MHT use and brain characteristics in females from the UK Biobank. Methods: 19,846 females with magnetic resonance imaging data were included. Detailed MHT prescription data from primary care records was available for 538. We tested for associations between the brain measures (i.e. gray/white matter brain age, hippocampal volumes, white matter hyperintensity volumes) and MHT user status, age at first and last use, duration of use, formulation, route of administration, dosage, type, and active ingredient. We further tested for the effects of a history of hysterectomy ± bilateral oophorectomy among MHT users and examined associations by APOE ε4 status. Results: Current MHT users, not past users, showed older gray and white matter brain age, with a difference of up to 9 mo, and smaller hippocampal volumes compared to never-users. Longer duration of use and older age at last use post-menopause was associated with older gray and white matter brain age, larger white matter hyperintensity volume, and smaller hippocampal volumes. MHT users with a history of hysterectomy ± bilateral oophorectomy showed younger gray matter brain age relative to MHT users without such history. We found no associations by APOE ε4 status and with other MHT variables. Conclusions: Our results indicate that population-level associations between MHT use and female brain health might vary depending on duration of use and past surgical history.

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The impact of carbohydrate quality index on menopausal symptoms and quality of life in postmenopausal women

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Introduction: Menopause is a natural process that often leads to physical and emotional symptoms affecting women's quality of life. Nutrition is increasingly recognized as important in managing these symptoms, with certain dietary patterns-particularly those rich in fiber and whole grains-showing potential benefits. In many regions, including parts of Asia and countries with carbohydrate-heavy diets, carbohydrate quality may significantly influence menopausal health outcomes and related chronic conditions. This study aimed to examine the relationship between carbohydrate quality index, and menopausal symptoms and quality of life in postmenopausal women. Methods: A total of 604 postmenopausal women participated. Participants completed a demographic questionnaire, the Menopause-Specific

Quality of Life Questionnaire (MENQOL) (higher scores indicate poorer quality of life), and the Menopause Rating Scale (MRS) (higher scores indicate more severe symptoms). A food frequency questionnaire was used to collect dietary intake. Carbohydrate quality was assessed using the Carbohydrate Quality Index (CQI), which considers glycemic index, fiber intake, solid carbohydrate-to-total carbohydrate ratio, and whole grain consumption. Participants were divided into five quartiles based on their CQI scores. Statistical analysis was performed using SPSS 24, with Mann-Whitney U test, Kruskal-Wallis H test, ANOVA, and regression analysis controlling for socioeconomic status, body mass index, education, and menopausal status. Results: Among the participating women, 273 were aged 30-55 years, 241 were aged 56-64 years, and 90 were aged 65 years and older. The youngest group (30-55) had the highest MENQOL (19.81 ± 9.70) and MRS (44.77 ± 30.91) scores, indicating more severe symptoms. Women postmenopausal for over 3 years reported significantly lower MENQOL scores (15.74 ± 0.42) compared to those postmenopausal for less than 3 years (17.98 ± 10.84) ($Z=-1.95$, $p < 0.05$). Across CQI quartiles, women in Q5 had significantly lowest MENQOL (14.35 ± 8.77) scores (Kruskal-Wallis $\chi^2=2.24$, $p < 0.05$). In regression analysis, being married ($\beta = 0.13$, $p < 0.05$) and receiving menopausal treatment ($\beta = 0.11$, $p < 0.05$) were positively associated with higher CQI scores. Conclusions: Higher carbohydrate quality, is linked to fewer menopausal symptoms. Regression analysis showed that marital status and menopausal treatment were significantly associated with Carbohydrate Quality Index scores. Further research with larger samples and longitudinal studies is needed to explore the causal relationship between carbohydrate quality and menopausal outcomes.

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Associations between age at natural menopause and risk of hypothyroidism among postmenopausal women from the Canadian Longitudinal Study on Aging (CLSA)

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Menopause is a key period in women's lives associated with major physiological changes. Early menopausal age has been linked to a range of adverse outcomes. Estrogen has been found to increase levels of thyroid binding proteins in the blood; however, its effect on hypothyroidism is not well investigated. To date limited studies were conducted to investigate the association between age at natural menopause and incidence of hypothyroidism, thus the objective of this study is to investigate the association between age at natural menopause and incidence of hypothyroidism among postmenopausal Canadian women. The study included women from the Canadian longitudinal study on aging that were followed for a 10-year period. Analysis was restricted to naturally postmenopausal women without hypothyroidism prior to menopause. Age at natural menopause was examined using the following categories 40-44, 45-49,50-54 (reference), and ≥55. Survival analysis was utilized to determine time to onset of hypothyroidism. Unadjusted and adjusted multivariable Cox regression models were used to assess the relationship between age at natural menopause and incidence of hypothyroidism. The multivariable Cox regression analysis showed no significant association between age at natural menopause and risk of hypothyroidism.

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The benefits of estradiol on cognitive aging in rats are independent from its effects on cardiometabolic health

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Research in preclinical models of menopause indicates that exogenously administered estrogens positively impact cognitive aging. However, clinical evidence indicates that the effects of estrogen therapy on cognition are inconsistent and may be modulated by pre-existing cardiometabolic conditions. The extent to which cardiometabolic health affects the cognitive outcomes of estrogen therapy remains unclear. This study aimed to determine whether variations in cardiometabolic health, both prior to and resulting from different estradiol treatment regimens, are related to the ability of estradiol to improve the cognitive aging trajectory in ovariectomized Long-Evans rats. Cognitive function and health status were assessed at 10 months of age after which rats were ovariectomized and administered vehicle or various estradiol treatments. Rats were assessed again at 18 (middle age) and 22 (old age) months. Cognition was evaluated using a spatial memory radial-maze task. Health status was determined through body composition analysis (dual-energy X-ray absorptiometry), glucose tolerance testing, and blood pressure and heart rate measurements (tail-cuff plethysmography). Results demonstrated that both continuous ongoing estradiol treatment and a previous 40-day estradiol exposure (terminated long before testing) significantly improved the cognitive aging trajectory from middle

to old age. However, only continuous estradiol treatment had positive impacts on health measures; previous estradiol treatment provided no benefits to aging cardiometabolic systems. In contrast, a delayed estradiol treatment (initiated months after ovariectomy) provided no benefits for cognition but provided health benefits. Results indicated that estradiol impacts on cognition in healthy aging rats are separate from and not secondary to its effects on cardiometabolic health.