Selección de Resúmenes de Menopausia

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A Cost Savings Analysis of Topical Estrogen Therapy in UTI Prevention Among Postmenopausal Women

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Introduction: Urinary tract infections (UTI) are some of the most common infections in geriatric patients, with many women experiencing recurrent infections after menopause. In the United States annual UTI related costs are 2 billion dollars, with recurrent infections creating a significant economic burden. Given the data published on topical estrogen in reducing the number of infections for postmenopausal women with recurrent UTI, we sought to evaluate how this would translate to cost saving. Methods: We performed a systemic literature review of UTI reduction secondary to topical estrogen utilization in postmenopausal female patients. The cost per UTI was determined based on published Medicare spending on UTI per beneficiary, weighted on reported likelihood of complicated and resistant infections. For a patient with recurrent infections, topical estrogen therapy reported on average can reduce infections from 5 to 0.5 to 2 times per person per year. Results: At a calculated cost per UTI of $1,222, the reduction in UTI spending can range between $3670-$5499 per beneficiary per year. Per beneficiary spending on topical estrogen therapies were $1013 on average ($578-$1445) in 2020. After including the cost of the therapy, overall cost savings for topical estrogen therapies was $1226 to 4888 annually per patient. Conclusions: Topical estrogens are a cost-conscious way to improve the burden of UTI on postmenopausal women with the potential for billions of dollars in Medicare savings. System wide efforts should be made to have these therapies available as prophylaxis for postmenopausal patients and to ensure they are affordable for patients.

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Gut microbiome responds to alteration in female sex hormone status and exacerbates metabolic dysfunction

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Women are at significantly greater risk of metabolic dysfunction after menopause, which subsequently leads to numerous chronic illnesses. The gut microbiome is associated with obesity and metabolic dysfunction, but its interaction with female sex hormone status and the resulting impact on host metabolism remains unclear. Herein, we characterized inflammatory and metabolic phenotypes as well as the gut microbiome associated with ovariectomy and high-fat diet feeding, compared to gonadal intact and low-fat diet controls. We then performed fecal microbiota transplantation (FMT) using gnotobiotic mice to identify the impact of ovariectomy-associated gut microbiome on inflammatory and metabolic outcomes. We demonstrated that ovariectomy led to greater gastrointestinal permeability and inflammation of the gut and metabolic organs, and that a high-fat diet exacerbated these phenotypes. Ovariectomy also led to alteration of the gut microbiome, including greater fecal β-glucuronidase activity. However, differential changes in the gut microbiome only occurred when fed a low-fat diet, not the high-fat diet. Gnotobiotic mice that received the gut microbiome from ovariectomized mice fed the low-fat diet had greater weight gain and hepatic gene expression related to metabolic dysfunction and inflammation than those that received intact sham control-associated microbiome. These results indicate that the gut microbiome responds to alterations in female sex hormone status and contributes to metabolic dysfunction. Identifying and developing gut microbiome-targeted modulators to regulate sex hormones may be useful therapeutically in remediating menopause-related diseases.

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Shift work, body mass index and associated breast cancer risks in postmenopausal women

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Introduction and objective: Shift work increases the risk of breast cancer, but the mechanisms is still under discussion. This study evaluates the relationship between breast cancer and shift work on the basis of overweight and obesity

among postmenopausal women. Material and methods: We examined this association using data from a case-control study carried between 2015 and 2019. The study involved 111 postmenopausal women with breast cancer and the same number of control participants. A self-reporting questionnaire was used for data collection. Multivariate logistic regression was conducted to find correlations between variables and determine the strength of relationships. Results: A 2.65-fold risk of breast cancer (OR=2.65; 95% CI: 1.34-5.22) was found among shift work women, compared with postmenopausal women not performing shift work. The association was modified by body mass index, showing a risk rate 9.84 times higher (OR=9.84; 95% CI: 2.14-45.19) among shift work and overweight women, compared to non-overweight women who had never been shift workers. Conclusions: About 49% of controls and 72% of cases had ever worked in a job that required shift work. The risk of breast cancer in postmenopausal women is associated with shift work, especially among overweight women. Some preventive measures to reduce the risk of breast cancer, in particular regarding a healthy lifestyle and weight control in this group of working women, should be implemented.

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Parathyroidectomy Improves Bone Density in Women With Primary Hyperparathyroidism and Preoperative Osteopenia

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Context: Osteoporosis and/or bone fractures are indications of parathyroidectomy in primary hyperparathyroidism (PHPT), especially in women. However, the benefit of surgery in patients with osteopenia remains unclear. Objective: To evaluate bone mineral density (BMD) and bone remodeling biomarkers changes 1 year after parathyroidectomy in women with PHPT. Design: In the prospective, monocentric, observational prospective cohort with primary hyperparathyroidism patients (CoHPT) cohort, women operated for sporadic PHPT since 2016 with ≥1 year follow-up were included. BMD (dual-X ray absorptiometry) and bone remodeling biomarkers [cross-linked C-telopeptide (CTX), procollagen type 1 N-terminal propeptide (P1NP), and bone-specific alkaline phosphatases] were assessed before and 1 year after parathyroidectomy. Setting: Referral center. Patients: A total of 177 women with PHPT (62.5 ± 13.3 years, 83.1% menopausal, 43.9% osteopenic, and 45.1% osteoporotic) were included. Intervention: Parathyroidectomy. Main outcome measure: BMD change between before and 1 year after parathyroidectomy. Results: Parathyroidectomy resulted in significant increase in BMD and decrease in serum bone remodeling biomarker concentrations. In the 72 patients with baseline osteopenia, mean BMD significantly increased at the lumbar spine [+0.05 g/cm2 (95% confidence interval [CI], 0.03-0.07)], the femoral neck [+0.02 g/cm2 (95% CI 0.00-0.04)], the total hip [+0.02 g/cm2 (95% CI 0.01-0.02)], and the forearm [+0.01 (95% CI 0.00-0.02)], comparable to osteoporotic patients. Among osteopenic patients, those with individual BMD gain (>0.03 g/cm2) at ≥1 site had higher preoperative serum CTX, P1NP, and urine calcium concentrations than those without improvement. Conclusion: Parathyroidectomy significantly improved BMD and remodeling biomarkers in women with osteopenia, thereby supporting the benefit of parathyroidectomy in these patients. Preoperative serum CTX and P1NP concentrations could be useful to predict expected BMD gain.

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Stressful life events, social support, and epigenetic aging in the Women's Health Initiative

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Background: Elevated psychosocial stress has been linked with accelerated biological aging, including composite DNA methylation (DNAm) markers that predict aging-related outcomes ("epigenetic age"). However, no study has examined whether stressful life events (SLEs) are associated with epigenetic age acceleration in postmenopausal women, an aging population characterized by increased stress burden and disease risk. Methods: We leveraged the Women's Health Initiative, a large muti-ancestry cohort of postmenopausal women with available psychosocial stress measures over the past year and epigenomic data. SLEs and social support were ascertained via self-report questionnaires. Whole blood DNAm array (450 K) data were used to calculate five DNAm-based predictors of chronological age, health span and life span, and telomere length (HorvathAge, HannumAge, PhenoAge, GrimAge, DNAmTL). Results: After controlling for potential confounders, higher SLE burden was significantly associated with accelerated epigenetic aging, as measured by GrimAge (β: 0.34, 95% CI: 0.08, 0.59) and DNAmTL (β: -0.016, 95% CI: -0.028, -0.004). Exploratory analyses showed that SLEs-GrimAge associations were stronger in Black women as compared to other races/ethnicities and in those with lower social support levels. In women with lower social support, SLEs-DNAmTL

associations showed opposite association in Hispanic women as compared to other race/ethnicity groups. Conclusions: Our findings suggest that elevated stress burden is associated with accelerated epigenetic aging in postmenopausal women. Lower social support and/or self-reported race/ethnicity may modify the association of stress with epigenetic age acceleration. These findings advance understanding of how stress may contribute to aging-related outcomes and have important implications for disease prevention and treatment in aging women.