Fractional CO2 laser versus promestriene and lubricant in genitourinary syndrome of menopause: a randomized clinical trial.

Politano CA1, Costa-Paiva L, Aguiar LB, Machado HC, Baccaro LF.

OBJECTIVE: The aim of this study was to compare the effects of fractional CO2 laser therapy, promestriene, and vaginal lubricants on genitourinary syndrome treatment and sexual function in postmenopausal women. METHODS: We performed a randomized clinical trial including 72 postmenopausal women over the age of 50 years. The women were randomized into three intervention groups to receive one of the following treatments: three sessions of intravaginal fractional CO2 laser therapy; 10mg of intravaginal promestriene cream 3 times a week; and vaginal lubricant application alone. Vaginal maturation, Vaginal Health Index (VHI) score, and Female Sexual Function Index (FSFI) were evaluated at baseline and after 14 weeks of therapy. RESULTS: We observed an improvement in the vaginal elasticity, volume, moisture, and pH in the CO2 laser and promestriene groups. The VHI score at 14 weeks was higher in the CO2 laser group (mean score 18.68) than in the promestriene (15.11) and lubricant (10.44) groups (P < 0.001). Regarding vaginal maturation, basal cells were reduced and superficial cells were increased after treatment. This improvement was more significant in the CO2 laser group (P <0.001). The FSFI score only showed improvement in the desire and lubrication domains in the CO2 laser group. There were no differences in total FSFI score among the three treatment groups. There were no adverse effects associated with any of the treatments. CONCLUSIONS: The use of fractional CO2 laser therapy to treat genitourinary syndrome resulted in better short-term effects than those of promestriene or lubricant with respect to improving the vaginal health in postmenopausal women.

Effect of Hormone Replacement Therapy on Bone Mineral Density and Body Composition in Chinese Adolescent and Young Adult Turner Syndrome Patients.

Li L1, Qiu X2, Lash GE3, Yuan L4, Liang Z4, Liu L5.

A longitudinal observational study was performed comparing BMD and body composition in Turner syndrome girls before and after 1 year of HRT treatment. Whole body BMD, femur neck BMD, total hip BMD, and lean mass were significantly increased, but there was no difference in fat mass, and lumbar spine BMD. Purpose: Low bone mineral density (BMD) is one of the major health problems in Turner syndrome (TS) patients, and a certain percentage of TS girls are treated with hormone replacement therapy (HRT) to improve their BMD, among other health benefits. While it is generally accepted that HRT improves BMD and body composition in adolescent and young adult TS patients, studies of HRT in Chinese TS patients are limited. Methods: To investigate the effects of HRT in Chinese TS girls, we performed a longitudinal observational study which compared measurement of BMD and body composition by dual energy X-ray absorptiometry (DXA) using a Lunar DXA densitometer in 20 Chinese adolescent and young adult TS patients (average age = 18) before and after 1 year of HRT treatment. Results: Whole body BMD (0.85 vs. 0.87 g/cm2, P < 0.001), femur neck BMD (0.6 vs. 0.62 g/cm2, P = 0.02), total hip BMD (0.68 vs. 0.71 g/cm2, P = 0.003) and whole body lean mass (30.39 vs. 31.66 kg, P = 0.002) were significantly increased in these patients after 1 year HRT treatment, but there was no difference in whole body fat mass, android:gynoid ratio and lumbar spine BMD. Conclusions: In summary, our study found that HRT was an effective way to increase whole body BMD, femur neck BMD, total hip BMD and whole body lean mass in Chinese TS girls, with no effect on whole body fat mass, android:gynoid ratio or lumbar spine BMD.

Estradiol Fluctuation, Sensitivity to Stress, and Depressive Symptoms in the Menopause Transition: A Pilot Study.

Gordon JL1, Peltier A1, Grunnisch JA1, Sykes Tottenham L1. The menopause transition is associated with an increased risk of depressed mood. Preliminary evidence suggests that increased sensitivity to psychosocial stress, triggered by exaggerated perimenopausal estradiol fluctuation, may play a role. However, accurately quantifying estradiol fluctuation while minimizing participant burden has posed a methodological challenge in the field. The current pilot project aimed to test the feasibility of capturing perimenopausal estradiol fluctuation via 12 weekly measurements of estrone-3-glucuronide (E1G), a urinary metabolite of estradiol, using participant-collected urine samples in 15 eugenic perimenopausal women ages 45-55 years. Furthermore, it aimed to correlate E1G fluctuation (standard deviation across the 12 E1G measurements) with weekly mood and cardiovascular, salivary cortisol, and subjective emotional responses to the Trier Social Stress Test (TSST) at weeks 4, 8, and 12. Protocol acceptability and adherence was high; furthermore, E1G fluctuation was positively associated with anhedonic depressive symptoms and weekly negative affect. E1G fluctuation was also associated with increased heart rate throughout the TSST as well as higher levels of rejection, anger, and sadness. E1G fluctuation was not significantly associated with TSST blood pressure or cortisol levels. This study suggests a feasible method of assessing estradiol fluctuation in the menopause transition and provides support for the hypothesis that perimenopausal estradiol fluctuation increases sensitivity to psychosocial stress and vulnerability to depressed mood.


Resistance training for hot flushes in postmenopausal women: A randomised controlled trial.

Berin E1, Hammar M2, Lindblom H3, Lindh-Åstrand L2, Rubér M2, Spetz Holm AC2.

OBJECTIVES: To investigate the effect of 15 weeks of resistance training on the frequency of moderate to severe hot flushes in postmenopausal women. STUDY DESIGN: Postmenopausal women with at least 4 moderate or severe hot flushes or night sweats per day were randomized to a 15-week resistance training intervention or unchanged physical activity. Participants did not exercise regularly at baseline and had not used any therapy for hot flushes two months prior to study entry. The resistance training was performed three times per week and the program contained 8 exercises performed with 8-12 repetitions in 2 sets. Loads were set individually from eight-repetition maximum-strength tests and increased progressively. MAIN OUTCOME MEASURES: The primary outcome was change in mean moderate or severe hot flushes per day from baseline to week 15, assessed with symptom diaries. Secondary outcomes included change in hot flush score and time spent on physical activity. RESULTS: Between November 19, 2013, and October 26, 2016, 65 women were enrolled; 58 completed the trial and were included in the analyses. The mean age was 55 and the mean number of moderate or severe hot flushes per day at baseline was 7.1; there were no baseline differences between groups. The frequency of hot flushes decreased more in the intervention group than in the control group (mean difference -2.7, 95% CI -4.2 to -1.3). The mean percentage change was -43.6% (-56.0 to -31.3) in the intervention group and -2.0% (-16.4-12.4) in the control group. CONCLUSION: A 15-week resistance-training program decreased the frequency of moderate and severe hot flushes among postmenopausal women and could be an effective and safe treatment option to alleviate vasomotor symptoms.


Association between reproductive factors and carotid atherosclerosis in postmenopausal women.

Madika AL1, Nasserdine P1, Langlet S1, Lecerf C1, Ledieu G1, Devos P2, Mounier-Vehier C3.

OBJECTIVES: Assessment of cardiovascular risk in women is specific and hormonal factors should be considered to avoid its underestimation. So far, studies on this issue are lacking and the impact of reproductive factors on cardiovascular risk has yet to be determined. We study the association between reproductive factors and carotid atherosclerosis, a non-invasive marker of cardiovascular diseases, in post-menopause. STUDY DESIGN: In this cross-sectional study, data were analyzed from post-menopausal women with at least one cardiovascular risk factor followed through a dedicated healthcare pathway at the Lille University Hospital between January 1st, 2013 and December 31st, 2016. MAIN OUTCOME AND MEASURES: The primary outcome was the presence of plaque or stenosis at carotid ultrasound. RESULTS: We included 370 post-menopausal women with a mean age of 63.4 ± 0.5 years. Carotid atherosclerosis was found in 161 (43.3%) women. Women with 3 or more children had higher odds of having carotid atherosclerosis than women with fewer than 3 children after adjustment for age, OR 1.69 [CI 95% 1.09-2.61], p = 0.019, and after further adjustment for anthropometric measures, traditional cardiovascular risk factors and
pregnancy-related complications: OR 1.65 [CI 95% 1.05-2.62], p = 0.031. No other reproductive factor was significantly associated with carotid atherosclerosis. CONCLUSIONS: A higher parity was associated with higher odds of carotid atherosclerosis independently of age, traditional risk factors, anthropometric measures and gestational diseases among post-menopausal women at risk of cardiovascular diseases. This suggests the importance of considering the number of children when assessing cardiovascular risk in women.


Vaginal Estrogen for the Prevention of Recurrent Urinary Tract Infection in Postmenopausal Women: A Randomized Clinical Trial.
Ferrante KL, Wasenda EJ1, Jung CE1, Adams-Piper ER2, Lukacz ES1.
OBJECTIVES: We aimed to compare the efficacy of 2 commonly used contemporary vaginal estrogen administrations versus placebo for the prevention of urinary tract infection (UTI) in postmenopausal women with a clinical diagnosis of recurrent UTI (rUTI). METHODS: This was an investigator-initiated, multicenter, single-blind, randomized, placebo-controlled trial of vaginal estrogen (delivered via ring or cream) compared with placebo. Postmenopausal women with documented rUTI were randomized to receive either vaginal estrogen (via ring or cream) or placebo cream in a 1:1:1 fashion. The primary outcome was occurrence of UTI at 6 months. After 6 months, open-label use of ring or active cream was offered to all participants for an additional 6 months. Because of slower than expected recruitment, sample size calculations and block randomization schema were revised to combine estrogen groups (ring or cream) for statistical comparisons to placebo cream in a 1:1 fashion. RESULTS: Thirty-five women were randomized with 9 dropouts (1 ring, 2 cream, and 6 placebo) prior to the 6 months. Intention-to-treat analysis (assuming dropouts as failures) revealed fewer women treated with vaginal estrogen had a UTI within 6 months versus placebo (11/18 vs 16/17, respectively; P = 0.041). Per-protocol analysis revealed fewer subjects treated with vaginal estrogen had a UTI at 6 months (8/15 vs 10/11, respectively; P = 0.036). CONCLUSIONS: Commonly prescribed forms of vaginal estrogen with contemporary dosing schedules prevent UTIs in postmenopausal women with an active diagnosis of rUTI.