



Selección de Resúmenes de Menopausia

Semana del 1 al 7 Mayo de 2019

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Coronary artery calcification in middle-aged women with premature ovarian insufficiency.

Gunning MN, Meun C, van Rijn BB, Maas AHEM, Benschop L, Franx A, et al; CREW-consortium Collaborators. **BACKGROUND:** Women with premature ovarian insufficiency (POI) enter menopause before age 40. Early menopause was associated with increased risk for coronary artery disease (CAD), death from cardiovascular disease and all-cause mortality. We compared the prevalence of CAD between middle-aged women on average 10 years following the initial POI diagnosis, with a population based cohort. **DESIGN:** Cross-sectional case control study. **PARTICIPANTS:** Women from two Dutch University Medical Centers above 45 years of age previously diagnosed with POI (n=98) were selected and compared with age- and race-matched controls from the Multi-Ethnic Study of Atherosclerosis (MESA). **MEASUREMENTS:** The primary outcome was detectable coronary artery calcium (CAC) determined by coronary computed tomography (CCT). **RESULTS:** Women with POI had significantly higher blood pressure, cholesterol and glucose, despite lower BMI compared to controls. Similar proportions of detectable CAC (CAC score >0 Agatston Units) were observed in women with POI and controls (POI n=16 (16%), controls n=52 (18%), p=0.40 and padj =0.93). In women with POI separately, we were not able to identify associations between CVD risk factors and CAC. The following CVD risk factors in controls were positively associated with CAC: age, diabetes mellitus, hypertension and LDL-cholesterol. HRT use was negatively associated with CAC in controls. **CONCLUSIONS:** The presence of CAC did not differ significantly in women with POI around 50 years of age, compared to an age- and race-matched control group. We observe no increased calcified coronary disease in POI patients, despite the presence of unfavourable cardiovascular risk factors in these women.

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Glucocorticoid-induced osteoporosis update.

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PURPOSE OF REVIEW: Steroid-induced osteoporosis or glucocorticoid-induced osteoporosis (GIOP) is a common form of secondary osteoporosis and is a cause of increased morbidity and mortality. The pathogenesis of GIOP includes decreased bone formation and increased bone resorption. Clinicians can rely on several effective medications for the treatment and prevention of GIOP, including antiresorptive drugs (i.e. bisphosphonates) and bone anabolic drugs (i.e. teriparatide). **RECENT FINDINGS:** Recent studies have further highlighted that GIOP is a major public health concern and have provided new insights on the pathogenesis of GIOP, in particular, the dose-dependent effects of glucocorticoids on bone. New evidence on the real-world effectiveness of established GIOP therapies have been recently published as well as the results of the 24-months denosumab randomized controlled trial in GIOP. **SUMMARY:** GIOP and fragility fractures are important adverse events related to the long-term use of glucocorticoids. Recent studies have provided additional data on the epidemiology and pathogenesis of GIOP and on the efficacy and effectiveness of GIOP therapies.

Arch Osteoporos. 2019 Apr 30;14(1):50. doi: 10.1007/s11657-019-0589-y.

Cost-benefit analysis of calcium and vitamin D supplements.

Weaver CM, Bischoff-Ferrari HA, Shanahan CJ.

If all adults with osteoporosis in the European Union (EU) and United States (US) used calcium and vitamin D supplements, it could prevent more than 500,000 fractures/year in the EU and more than 300,000/year in the US and save approximately €5.7 billion and US \$3.3 billion annually. **PURPOSE:** Evaluate the cost-effectiveness of calcium/vitamin D supplementation for preventing osteoporotic fractures. **METHODS:** A cost-benefit analysis tool was used to estimate the net cost savings from reduced fracture-related hospital expenses if adults with osteoporosis in the EU and US used calcium/vitamin D supplements. A 14% relative risk reduction of fracture with calcium/vitamin D supplementation from a recent systematic review and meta-analysis of randomized, controlled

trials was used as the basis for the benefit estimate. Other model inputs were informed by epidemiologic, clinical, and cost data (2016-2017) obtained via the medical literature or public databases. Analyses estimated the total number of avoided fractures and associated cost savings with supplement use. Net cost benefit was calculated by subtracting the supplements' market costs from those savings. RESULTS: The > 30 million persons in the EU and nearly 11 million in US with osteoporosis experience about 3.9 million and 2.3 million fractures/year and have annual hospital costs exceeding €50 billion and \$28 billion. If all persons with osteoporosis used calcium and vitamin D supplements, there would be an estimated 544,687 fewer fractures/year in the EU and 323,566 fewer in the US, saving over €6.9 billion and \$3.9 billion; the net cost benefit would be €5,710,277,330 and \$3,312,236,252, respectively. CONCLUSIONS: Calcium and vitamin D supplements are highly cost-effective, and expanded use could considerably reduce fractures and related costs. Although these analyses included individuals aged ≥ 50 years, the observed effects are likely driven by benefits observed in those aged ≥ 65 years.

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Fat mass changes during menopause: a meta-analysis.

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BACKGROUND: Fat mass has been shown to increase in ageing women, however, the extent to which menopausal status mediates these changes remains unclear. OBJECTIVES: To determine (i) how fat mass differs in quantity and distribution between premenopausal and postmenopausal women, (ii) whether and how age and/or menopausal status moderates any observed differences and (iii) which type of fat mass measure is best suited to detecting differences in fat mass between groups. STUDY DESIGN: This review with meta-analysis is reported according to MOOSE guidelines. DATA SOURCES and populations: Studies (published up to May 2018) were identified via PubMed to provide fat mass measures in premenopausal and postmenopausal women. 201 cross-sectional studies were included in the meta-analysis, which provided a combined sample size of 1 049 919 individuals consisting of 478 734 premenopausal women and 571 185 postmenopausal women. 11 longitudinal studies were included in the meta-analyses, which provided a combined sample size of 2 472 women who were premenopausal at baseline and postmenopausal at follow up. RESULTS: The main findings of this review were that fat mass significantly increased between premenopausal and postmenopausal women across most measures, including body mass index (1.14 kg/m², 95 % confidence interval 0.95 to 1.32), body weight (1 kg, 0.44 to 1.57), body fat percentage (2.88 %, 2.13 to 3.63), waist circumference (4.63 cm, 3.90 to 5.35), hip circumference (2.01 cm, 1.36 to 2.65), waist to hip ratio (0.04, 0.03 to 0.05), visceral fat (26.90 cm², 13.12 to 40.68) and trunk fat percentage (5.49 %, 3.91 to 7.06), with the exception of total leg fat percentage, which significantly decreased (-3.19 %, -5.98 to -0.41). No interactive effects were observed between menopausal status and age across all fat mass measures. CONCLUSIONS: The change in fat mass quantity between premenopausal and postmenopausal women was predominantly attributable to increasing age with menopause having no significant additional influence. However, the decrease in total leg fat percentage and increase in measures of central fat are indicative of a possible change in fat mass distribution after menopause. These changes are likely to, at least in part, be due to hormonal shifts that occur during midlife with women having a higher androgen (i.e. testosterone) to estradiol ratio after menopause, which has been linked to enhanced central adiposity deposition. Evidently, these findings suggest attention should be paid to the accumulation of central fat after menopause, whereas increases in total fat mass should be monitored consistently across the lifespan.

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Dose-response effects of exercise on bone mineral density and content in postmenopausal women.

Gonzalo-Encabo P, McNeil J, Boyne DJ, Courneya KS, Friedenreich CM.

Exercise is one of the most widely used non-pharmacological strategies to prevent bone resorption during menopause. Given the detrimental consequences of bone demineralization, the purpose of this study was to examine the effects of prescribing different exercise volumes on bone mineral density and content in previously inactive, postmenopausal women during a 12-month intervention and one year after intervention completion. Four hundred postmenopausal women were randomized to either 150 minutes/week (MODERATE dose group) or 300 minutes/week (HIGH dose group) of aerobic exercise. Total bone mineral density (g/cm²) and bone mineral content (g) were assessed at baseline, 12-months (end of the intervention) and 24-months (follow-up) using whole body dual energy X-ray absorptiometry. At 12-months, mean bone mineral density among women in the HIGH dose group was estimated to be 0.006 g/cm² (95% CI: 0.001 - 0.010; p=0.02) higher than that of women randomized to the

MODERATE dose group. At 24-months, the mean difference between groups remained statistically significant, indicating higher mean bone mineral density among women in the HIGH dose group (0.007 g/cm² ; 0.001-0.001; p=0.04). No significant differences between groups were found at any time point for bone mineral content. In an exploratory analysis, women who completed more minutes/week of impact exercises had significantly higher mean levels of bone mineral density at 12-months compared to baseline (0.006 g/cm² , 95% CI: 0.006 - 0.012; p=0.03). These findings suggest that higher volumes of exercise, especially impact exercise, lead to a smaller decline in total bone mineral density, which may remain following intervention completion.

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Disparities in osteoporosis by race/ethnicity, education, work status, immigrant status, and economic status in the United States.

Tsai AJ.

AIMS: Osteoporosis is one of the most common bone health diseases affecting older adults in US. Addressing disparities in osteoporosis will help to enhance the quality of bone care in the nation's bone health programs. **MATERIALS & METHODS:** We used the data of adult participants of the National Health and Nutrition Examination Survey with reported bone mineral density measured during the periods of 2005-2010 and 2013-2014 to examine disparities in osteoporosis based on race/ethnicity, educational attainment, work status, immigrant status, and economic status in US. **RESULTS:** Based on educational attainment, the age- and sex-standardized osteoporosis prevalence (SOP) was highest among those with less than a high school education (HSE) (5.1%, 95% CI (CI): 4.3%-5.9%), whereas it was lowest among those with more than HSE (3.2%, CI: 2.7%-3.6%). Based on work status, SOP was highest among unemployed participants (5.4%, CI: 1.9%-8.9%), whereas it was lowest among working participants (2%, CI: 1.6%-2.4%). Based on immigrant status, SOP was highest among non-citizens (6.4%, CI: 5%-7.8%), whereas it was lowest among those born in US (3.4%, CI: 3.1%-3.7%). Based on economic status, SOP was highest among those with poverty-to-income ratio (PIR) <1 (5.5%, CI: 4.4%-6.5%), whereas it was lowest among those with PIR ≥ 4 (2.4%, CI: 1.9%-2.9%). **CONCLUSIONS:** Osteoporosis was more prevalent among US adults who were non-citizens, less educated, unemployed, and had lower income. The observed disparities suggest a need for interventions to promote better quality bone care among the socioeconomically disadvantaged groups.