Selección de Resúmenes de Menopausia

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María Soledad Vallejo. Clínica Quilín. Universidad de Chile

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Impact of Dietary Isoflavone Supplementation on the Fecal Microbiota and Its Metabolites in Postmenopausal Women

Lucía Guadamuro 1 , M Andrea Azcárate-Peril 2 , Rafael Tojo 3 , Baltasar Mayo 1 4 , Susana Delgado 1 4

Isoflavones are metabolized by components of the gut microbiota and can also modulate their composition and/or activity. This study aimed to analyze the modifications of the fecal microbial populations and their metabolites in menopausal women under dietary treatment with soy isoflavones for one month. Based on the level of urinary equol, the women had been stratified previously as equol-producers (n = 3) or as equol non-producers (n = 5). The composition of the fecal microbiota was assessed by high-throughput sequencing of 16S rRNA gene amplicons and the changes in fatty acid excretion in feces were analyzed by gas chromatography. A greater proportion of sequence reads of the genus Slackia was detected after isoflavone supplementation. Sequences of members of the family Lachnospiraceae and the genus Pseudoflavonifractor were significantly increased in samples from equol-producing women. Multivariable analysis showed that, after isoflavone treatment, the fecal microbial communities of equol producers were more like each other. Isoflavone supplementation increased the production of caproic acid, suggesting differential microbial activity, leading to a high fecal excretion of this compound. However, differences between equol producers and non-producers were not scored. These results may contribute to characterizing the modulating effect of isoflavones on the gut microbiota, which could lead to unravelling of their beneficial health effects.

Z Rheumatol. 2021 Aug 6.doi: 10.1007/s00393-021-01028-w. Online ahead of print.

German Society of Rheumatology Recommendations for the management of glucocorticoid-induced Osteoporosis. German version. Article in German.

Jan Leipe 1 2 , Julia U Holle 3 , Christiane Weseloh 4 , Alexander Pfeil 5 , Klaus Krüger 6 , die Kommission Pharmakotherapie der Deutschen Gesellschaft für Rheumatologie e. V. (DGRh)

Background: Glucocorticoids are of substantial therapeutic importance in the treatment of inflammatory diseases, but are also associated with bone mineral density loss, osteoporosis, and fractures, especially with long-term use. Objective: To develop recommendations for the management of glucocorticoid-induced osteoporosis (GIOP) in adult patients on long-term glucocorticoid (GC) treatment. Methods: A systematic literature search (SLR) was conducted to synthesize the evidence for GIOP prevention and treatment options. Recommendations were developed based on SLR/level of evidence and by previously defined questions and in a structured group consensus process. Results: Recommendations include supplementation with calcium and vitamin D under long-term GC therapy in adults. If specific osteologic treatment is indicated, we recommend bisphosphonates or denosumab as first-line treatment. If fracture risk is high, we recommend teriparatide as primary specific osteologic treatment. Denosumab should be used in cases of severe renal insufficiency, and specific osteologic treatment should not be given in pregnancy. For patients who have not reached the treatment goal, a switch to another class of specific osteologic drugs should be performed. We recommend re-evaluation after a treatment duration of 3-5 years or after termination of long-term GC treatment. Conclusion: This work aims to provide evidence-based and consensus-based recommendations for the best possible management of GIOP in Germany and to support treatment decisions.

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Association between Metabolic Syndrome and Osteoporosis: A Systematic Review and Meta-Analysis

Weida Liu 1 , Chuangshi Wang 1 , Jun Hao 1 , Lu Yin 1 , Yang Wang 1 , Wei Li 1

Background: Previous studies have reached mixed conclusions regarding the association between metabolic syndrome (MS) and osteoporosis. We aimed to perform a meta-analysis based on published studies that explored the association between osteoporosis and MS. Methods: To identify related literature, a systematic search of PubMed, Cochrane Library, and EMBASE databases from inception to June 2020 was performed. Original studies that reported the risk

estimates of osteoporosis morbidity for two or three categories of bone mineral density (BMD) in patients with MS were selected. Two independent investigators screened and selected the articles. Summary odds ratios (ORs) and 95% confidence intervals (CIs) were calculated using random-effects models. Results: Of 2632 identified studies, nine cross-sectional studies with 14 datasets were eligible for our meta-analysis. In seven studies (10 datasets), the summarized ORs of osteoporosis for MS were 0.72 (95% CI: 0.52-0.99). Subgroup analyses by gender showed that significant inverse associations were observed only in men (OR = 0.72, 95% CI: 0.55-0.96) but not in women (OR = 0.70, 95% CI: 0.41-1.22). The definition of MS, the source of the study population, and the adjustment of covariates affected the estimates. In two studies (4 datasets), there was no evidence for an association between MS and decreased BMD. Conclusions: Our findings demonstrated that MS was significantly associated with a lower osteoporosis risk. There might be gender differences in the association between MS and osteoporosis. In addition, the association was likely to relate to the definition of MS, the source of the study population, and the adjustment of covariates.

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Age and/or postmenopausal status as risk factors for pelvic organ prolapse development: systematic review with meta-analysis

Luiz Gustavo Oliveira Brito 1 , Glaucia Miranda Varella Pereira 2 , Pamela Moalli 3 , Oksana Shynlova 4 , et al.

Introduction and hypothesis: Age is named as a risk factor for pelvic organ prolapse (POP), despite not being the primary outcome for many observational studies. Postmenopausal status is another associated factor but has many confounders. We aimed to systematically review the role of age and/or postmenopausal status in POP development. Methods: Systematic review addressing age and hormones, more specifically by postmenopausal status, from inception to March 2020 in four databases (PubMed, Embase, WOS, Cochrane Library). Quality of evidence was classified by the ROBINS-I classification for non-randomized studies. Experimental studies, animal studies, studies linking age with recurrent POP and case series were excluded. Effect estimates were collected from adjusted odds ratio plus 95% confidence intervals. Significance level was 5%. A discussion exploring mechanistic factors was also included. Results: Nineteen studies (11 cross sectional, 6 cohort and 2 case control) were included for quantitative analysis. Only two studies presented a low overall risk of bias for age; most of the domains were of moderate risk. Every additional year was responsible for a 10% increase in the risk to develop POP (OR = 1.102 [1.021-1.190]; i2 = 80%, random analysis, p = 0.012). This trend was confirmed when age was dichotomized into a cutoff of 35 (p = 0.035) and 50 (p < 0.001) years. Although an increase in the risk for POP was noted in postmenopausal women, this did not reach statistical significance (OR = 2.080 [0.927-4.668], i2 = 0%, p = 0.076). Conclusion: Age is a risk factor for POP; postmenopausal status was not statistically associated with POP, prompting the need for further studies addressing this factor.

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Genetic insights into biological mechanisms governing human ovarian ageing

Katherine S Ruth # 1 , Felix R Day # 2 , Jazib Hussain # 3 , Ana Martínez-Marchal 4 5 , Catherine E Aiken, et al.

Reproductive longevity is essential for fertility and influences healthy ageing in women, but insights into its underlying biological mechanisms and treatments to preserve it are limited. Here we identify 290 genetic determinants of ovarian ageing, assessed using normal variation in age at natural menopause (ANM) in about 200,000 women of European ancestry. These common alleles were associated with clinical extremes of ANM; women in the top 1% of genetic susceptibility have an equivalent risk of premature ovarian insufficiency to those carrying monogenic FMR1 premutations3. The identified loci implicate a broad range of DNA damage response (DDR) processes and include loss-of-function variants in key DDR-associated genes. Integration with experimental models demonstrates that these DDR processes act across the life-course to shape the ovarian reserve and its rate of depletion. Furthermore, we demonstrate that experimental manipulation of DDR pathways highlighted by human genetics increases fertility and extends reproductive life in mice. Causal inference analyses using the identified genetic variants indicate that extending reproductive life in women improves bone health and reduces risk of type 2 diabetes, but increases the risk of hormone-sensitive cancers. These findings provide insight into the mechanisms that govern ovarian ageing, when they act, and how they might be targeted by therapeutic approaches to extend fertility and prevent disease.

Cancer Prev Res (Phila). 2021 Aug 4;canprevres.0141.2021.doi: 10.1158/1940-6207.CAPR-21-0141.

Bilateral salpingo-oophorectomy and breast cancer risk for BRCA1 and BRCA2 mutation carriers: Assessing the evidence

Ciara Conduit 1 , Roger L Milne 2 , Michael L Friedlander 3 , Kelly-Anne Phillips 4

Without preventive interventions, women with germline pathogenic variants in BRCA1 or BRCA2 have high lifetime risks for breast cancer (BC) and tubo-ovarian cancer. The increased risk for BC starts at a considerably younger age than that for tubo-ovarian cancer. Risk-reducing bilateral salpingo-oophorectomy (rrBSO) is effective in reducing tubo-ovarian cancer risk for BRCA1 and BRCA2 mutation carriers, but whether it reduces BC risk is less clear. All studies of rrBSO and BC risk are observational in nature, and subject to various forms of bias and confounding, thus limiting conclusions that can be drawn about causation. Early studies supported a statistically significant protective association for rrBSO on BC risk, which is reflected by several international guidelines that recommend consideration of pre-menopausal rrBSO for BC risk reduction. However, these historical studies were hampered by the presence of several important biases, including immortal person-time bias, confounding by indication, informative censoring, and confounding by other risk factors, which may have led to over-estimation of any protective benefit. Contemporary studies, specifically designed to reduce some of these biases, have yielded contradictory results. Taken together, there is no clear and consistent evidence for a role of pre-menopausal rrBSO in reducing BC risk in BRCA1 or BRCA2 mutation carriers.

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Association between body composite indices and vertebral fractures in pre and postmenopausal women in Korea

HyunJin Kim 1 , Chung-Woo Lee 1 , Myung Ji Nam 1 , Yeon Joo Choi 1 , Kyungdo Han 2 , et al.

The association between obesity and vertebral fracture remains controversial. This study aimed to investigate the association between obesity/abdominal obesity and vertebral fracture according to menopausal status. This nationwide population-based epidemiologic study collected data from the Korean National Health Insurance Services to investigate the association between obesity/abdominal obesity and vertebral fracture in pre and postmenopausal women who underwent national cancer screening in 2009. We used three body composite indices of obesity, body mass index, waist circumference and waist-to-height ratio, to classify participants into obesity and abdominal obesity groups. In both pre and postmenopausal groups, participants with obesity showed a higher risk of vertebral fracture and the association was stronger in those with abdominal obesity ($p < 0.001$). Participants with obesity showed a high risk of vertebral fracture, and the association was stronger in participants with abdominal obesity ($p < 0.001$). In both pre and postmenopausal groups, participants with obesity showed a higher risk of vertebral fracture (adjusted HR, 1.24; 95% CI, 1.19-1.30), (adjusted HR, 1.04; 95% CI, 1.03-1.05, and those with abdominal obesity showed even higher risk of vertebral fractures (adjusted HR, 1.35; 95% CI, 1.27-1.43), (adjusted HR, 1.13; 95% CI, 1.11-1.14). Vertebral fracture risk is higher in pre and postmenopausal women with obesity and even higher in those with abdominal obesity. Therefore, weight management can prevent vertebral fractures.