Selección de Resúmenes de Menopausia

Semana del 30 de enero al 5 de Febrero de 2019

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Estradiol and progesterone regulate proliferation and apoptosis in colon cancer.

Sasso CV, Santiano FE, Campo Verde Arboccó F, Zyla L, Semino SN, Guerrero-Gimenez ME, Pistone Creydt V, et al.

Epidemiological studies describe estrogens as protectors in the development of colon cancer in postmenopausal women treated with hormone replacement therapy. However, the role of progesterone in colon cancer has been minimally studied and the results are controversial. For the above, the objective of this work was to determine the hormonal regulation exerted by natural ovarian steroids on proliferation and apoptosis in an experimental model of colon cancer in ovariectomized rats treated with 17 beta-estradiol and progesterone. Sprague Dawley rats were exposed to the carcinogen 1,2-dimethylhydrazine to induce colon tumors. Thirty days later, the rats were ovariectomized and treated with estradiol (60 μg/kg), progesterone (10 mg/kg), estradiol plus progesterone (60 μg/kg and 10 mg/kg) and vehicle. We observed no significant differences in colon cancer incidence and tumor multiplicity between the groups. Nevertheless, we observed a decrease in PCNA expression and a greater number of apoptotic index, higher expression of caspase 3, cleaved PARP and cleaved caspase 8 in tumors, confirming the activation of the extrinsic pathway of apoptosis by the combined treatment. In addition, we observed a higher expression of estrogen receptor beta in these tumors. We conclude that the action of both hormones, estradiol and progesterone, is necessary to reduce proliferation and increase apoptosis in colon tumors, probably through estrogen receptor beta activation.

Calcif Tissue Int. 2019 Feb 8. doi: 10.1007/s00223-019-00531-2. [Epub ahead of print]

Calciotropic Hormones and the Prevalence of Vertebral Fractures in Chinese Postmenopausal Women with Vitamin D Insufficiency: Peking Vertebral Fracture Study.

Jiajue R, Jiang Y, Qi X, Wang Q, Wang W, Pei Y, Wang X, Huang W, Zheng X, Ning Z, Wang O, Li M, Xing X, et al.

This case-control study aimed to examine the effect of high serum parathyroid hormone (PTH) level, especially the effect of secondary hyperparathyroidism (SHPT) related to hypovitaminosis D, on bone metabolism and bone phenotypes. We included a total of 830 Chinese postmenopausal women aged ≥ 50 years with serum 25-hydroxyvitamin D (25(OH)D) level < 30 ng/ml, among whom 415 women had prevalent vertebral fractures (VFs) and others were age-matched controls. We measured serum levels of 25(OH)D, PTH and bone turnover markers (BTMs), which included C-terminal telopeptide of type I collagen (β-CTX), N-aminoterminal prepeptide of type I procollagen (P1NP) and osteocalcin (OC). Bone mineral densities (BMDs) at lumbar spine and femoral neck were quantified by dual-energy X-ray absorptiometry. Morphometric VFs were validated by lateral radiograph of thoracolumbar spine. Compared to fracture-free controls, women with VFs exhibited a higher serum level of PTH and a higher percentage of SHPT (both $p < 0.05$), but had a similar serum level of 25(OH)D ($p = 0.166$). Positive correlations were depicted between PTH and BTMs (all $p < 0.01$), and between 25(OH)D and bone formation markers ($p = 0.013$ for OC, $p = 0.068$ for P1NP), whereas no significant correlation was identified between both calciotropic hormones and BMDs or between 25(OH)D and β-CTX (all $p > 0.05$). Increasing PTH was associated with an increased risk of VFs independent of 25(OH)D and BMD [odds ratio (OR) per SD increase in PTH 1.016, 95% confidence interval (95% CI) 1.006-1.027]. Moreover, women with SHPT (i.e., > 68 pg/ml) had about three times odds for VF compared to women with normal PTH levels (OR 3.270, 95% CI 1.581-6.760). These data suggest that evaluated serum PTH level might promote the bone remodeling and then lead to increased risks of VFs among Chinese postmenopausal women with vitamin D insufficiency.

Obes Surg. 2019 Feb 7. doi: 10.1007/s11695-019-03719-5. [Epub ahead of print]

Impact of Bariatric Surgery on Bone Mineral Density: Observational Study of 110 Patients Followed up in a Specialized Center for the Treatment of Obesity in France.

Geoffroy M, Charlot-Lambrecht I, Chrusciel J, Gaubil-Kaladjian I, Diaz-Cives A, Eschard JP, Salmon JH.

INTRODUCTION: Bariatric surgery is used to treat severe obesity. We aimed to investigate the incidence of clinically significant bone mineral density (BMD) loss at 6 and 12 months after bariatric surgery. METHODS: Observational study performed in a specialized center for the treatment of obesity at the University Hospital of Reims, France. Surface BMD was measured by dual x-ray absorptiometry (DEXA). A reduction of > 0.03 g/cm2 was considered clinically significant. RESULTS: A total of 110 patients were included. A clinically significant reduction in BMD was observed in 62.1% of patients at 6 months, and in 71.6% at 12 months after surgery. No case of osteoporosis was observed. There were four cases of osteopenia and one fracture post-surgery. BMD loss was related by univariate analysis to the reduction in body mass index (BMI) ($p < 0.01$), weight loss ($p < 0.01$), fat mass ($p < 0.01$), and lean mass ($p < 0.01$). Multivariable analysis found a significant association between the reduction in BMD and the excess weight loss percentage (odds ratio 1.11, 95% confidence interval (1.05-1.18), $p < 0.001$). CONCLUSION: There was a clinically significant reduction in BMD at 6 months after surgery in over 60% of patients undergoing bariatric surgery. BMD loss is persistent over time and predominantly situated at the femoral level, and strongly associated with weight loss. Systematic vitamin and calcium supplementation, as well as follow-up by DEXA scan seems appropriate. Systematic DEXA scan pre- and post-surgery, and annually thereafter until weight has stabilized seems appropriate.

Rev Med Chil. 2018 Dec;146(10):1170-1174. doi: 10.4067/S0034-98872018001001170.

Does menopause hormone therapy reduce the risk of chronic diseases?

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The hormonal deficit of post menopause is not only linked to the classic hot flashes, but also to a higher risk of chronic diseases. Menopausal hormone therapy (MHT) adequately treats climacteric symptoms and can prevent some chronic diseases such as osteoporosis. The Women's Health Initiative (WHI) study, which indicated risks of MHT in elderly postmenopausal women, caused a massive withdrawal of this therapy. But, in recent years the results of the WHI have been challenged by methodological problems and by several studies indicating that, if MHT is initiated early and the non-oral route is preferred, the risks could be minimized and it could improve not only the quality of life but also reduce the risk of chronic diseases. However, the US Preventive Services Task Force (USPSTF) recommends against the use of MHT for the prevention of chronic diseases, a position that has been challenged by publications of the North American Menopause Society and the International Menopause Society. This controversy persists so far. We report data that suggest a preventive role of MHT in perimenopausal women.

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Metabolic syndrome during female midlife: what are the risks?

Chedraui P, Pérez-López FR.

The metabolic syndrome (METS) is an entity diagnosed by three or more of the following factors: abdominal obesity, low high-density lipoprotein cholesterol, and high serum triglycerides, fasting glucose, and/or blood pressure levels. Abdominal obesity is the most prevalent component of the syndrome that favors insulin resistance and a proinflammatory and prothrombotic status, and the risk of developing diabetes, hypertension, and other chronic conditions. During the menopausal transition, women tend to gain weight and this has been related to an increase in the prevalence of the METS. Rates have also been linked to hormonal status (perimenopausal vs. postmenopausal), changes in lifestyle, and endocrine adjustments. Abnormal cytokine secretion subsequently produces endothelial dysfunction, which will consequently increase cardiovascular risk and related morbidity and mortality. This document will review the various risks that arise as a consequence of the METS during female midlife.

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Do we have new preventive strategies for optimizing cardiovascular health in women?

Stuenkel CA.

Over the past decades, progress in efforts to reduce cardiovascular morbidity and mortality has been achieved, although a disturbing trend for stagnation of cardiovascular mortality rates among younger women compared with those in younger men has been identified. While the menopause transition has traditionally offered an unequivocal opportunity to assess cardiovascular risk and counsel women to adopt preventive strategies, the veritable 'window of opportunity', usually applied to the concept of timing the initiation of menopausal hormone therapy, must be opened much wider to encompass younger women including those who have experienced adverse events during pregnancy, treatment for breast cancer, and premature menopause. Collaborative efforts by a number of expert medical groups provide encouragement

and justification for an aggressive approach to identify and modify cardiovascular risk earlier in younger women, starting at age 20 years. Quantifying cardiovascular risk with country and population-specific risk calculators can be helpful to validate perception of risk and encourage preventive recommendations. Adherence to established guidelines for lifestyle measures (smoking cessation, healthful eating habits, enhanced physical activity, and weight control) along with treatment of traditional risk factors - hypertension, glucose intolerance, and dyslipidemia - provides a sound basis for prevention of cardiovascular disease in women.

Aging Clin Exp Res. 2019 Feb 1. doi: 10.1007/s40520-019-01131-8. [Epub ahead of print]

Nutritional influence on bone: role of gut microbiota.

Rizzoli R.

Gut microbiota (GM) located within the intestinal tract lumen comprises the largest number of cells (10E14) in the human body. The gut microbiome refers to the collection of genomes and genes present in gut microbiota. GM can vary according to age, sex, genetic background, immune status, geography, diet, prebiotics, which are non-digestible fibers metabolized in the distal part of the gastrointestinal tract, probiotics, which are micro-organisms conferring a health benefit on the host when administered in adequate amounts, living conditions, diseases and drugs. A source of probiotics is fortified fermented dairy products, which in addition provide calcium, protein, phosphorus and various micronutrients. Bone homeostasis is influenced by GM composition and/or products. GM appears to be a major player in the various determinants of bone health. However, it remains to be demonstrated in well conducted long-term randomized controlled trials, whether interventions changing GM composition and/or function are capable of reducing fracture risk.