Selección de Resúmenes de Menopausia

Semana del 14 al 20 de marzo de 2018

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Arch Osteoporos. 2018 Mar 15;13(1):29. doi: 10.1007/s11657-018-0437-5.

Bone: best papers of the year 2017.

Laurent MR

An overview of selected papers related to bone published in 2017 is provided. PURPOSE: This paper accompanies a lecture at the 2018 Belgian Bone Club annual Clinical Update Symposium held in Brussels on January 20th, discussing the best papers (in the opinion of the author) published in the previous year. METHODS: A PubMed search using the keyword "bone" and articles published in 2017. RESULTS: Hot topics include screening for osteoporosis, novel anabolic drugs such as romosozumab and abaloparatide for osteoporosis and rare metabolic bone diseases, as well as long-term efficacy of denosumab and possible risk of multiple vertebral fractures following its discontinuation. Other selected articles cover effectiveness of bisphosphonates and changes in mineralization after long-term use, new guidelines for glucocorticoid- and aromatase inhibitor-induced osteoporosis, increasing use of high-dose vitamin D supplements despite lack of evidence for their widespread high-dose use, and cardiovascular safety concerns surrounding the use of calcium supplements. Other topics discussed are effects of diabetes on bone health, reciprocal crosstalk between bone cells and adipose tissue, and resistance exercise training to prevent bone loss and sarcopenia. CONCLUSIONS: These papers offer a hopeful outlook for a better treatment and management of patients with osteoporosis and other metabolic bone diseases anno 2018.

Horm Cancer. 2018 Mar 15. doi: 10.1007/s12672-018-0329-6. [Epub ahead of print]

Adiposity Results in Metabolic and Inflammation Differences in Premenopausal and Postmenopausal Women Consistent with the Difference in Breast Cancer Risk.

Zhao H, Wang J, Fang D, Lee O, Chatterton RT, Stearns V, Khan SA, Bulun SE.

Obesity is associated with increased risk of breast cancer in postmenopausal but not in premenopausal women. Many factors may be responsible for this difference. The aim of this study was to determine the mechanisms by which the genes related to the AMPK pathway, inflammation, and estrogen actions are affected by adiposity in breast tissue with the objective of identifying differences that may explain the different breast cancer risk in premenopausal and postmenopausal women. Random fine needle aspirates (rFNAs) of breast tissue were collected from 57 premenopausal and 55 postmenopausal women and were classified as normal weight, overweight, or obese. Expression levels of 21 target genes were determined using a TaqMan Low Density Array procedure. Breast tissue estradiol levels were measured by a liquid chromatography-tandem mass spectrometry procedure, and serum estradiol and follicle-stimulating hormone (FSH) were measured by a radioimmunoassay and an enzyme-linked immunosorbent assay, respectively. We found that in postmenopausal women, serum and tissue estradiol levels were increased in those who were overweight, and serum FSH levels were decreased in obese status. Interestingly, RPS6KB1, an AMPK downstream-responsive gene for protein synthesis and cell growth, and estrogen receptor α (encoded by the ESR1 gene) and its target gene GATA3 were significantly decreased in rFNA of premenopausal, obese women. In postmenopausal women, RPS6KB1, ESR1, and GATA3 expression remained unchanged in relation to adiposity. However, prostaglandin-endoperoxide synthase 2 (PTGS2), cyclin D1 (CCND1), and another ESR1 target gene, TFF1, were elevated in rFNA of obese postmenopausal women. Thus, as bodyweight increases, gene expression is indicative of increased proliferation in postmenopausal women but decreased proliferation in premenopausal women. Overall, our data reveal a novel process by which obesity promotes the risk of breast cancer in postmenopausal but not premenopausal women.

J Rheumatol. 2018 Mar 15. pii: jrheum.170054. doi: 10.3899/jrheum.170054. [Epub ahead of print]

Glucocorticoids Are Associated with An Increased Risk for Vertebral Fracture in Patients with Rheumatoid Arthritis.

Kim D, Cho SK, Park B, Jang EJ, Bae SC, Sung YK.

OBJECTIVE: To identify the effects of glucocorticoids (GC) on various types of fractures in patients with rheumatoid arthritis (RA). METHODS: We used the Korean National Healthcare Claims database from 2010 to establish a retrospective cohort of patients with RA ≥ 19 years old. We then followed those patients through December 2013. The incidence rates of total and major fractures were calculated. We evaluated the effects of GC dose and duration on fractures using multivariable logistic regression analyses. We also examined the influence of GC on fractures in RA patients without a history of osteoporosis. RESULTS: A total of 11,599 fractures was observed in 9964 out of 138,240 patients with RA. During followup, 68.2% of patients used oral GC for > 3 months. Adjusted analysis showed the risk of vertebral fractures was increased by the following characteristics: duration of GC ≥ 6 months (OR 1.76, $p < 0.01$); mean dose of GC ≥ 2.5 mg (OR range = 1.37-1.71, $p < 0.01$); and highest daily dose of GC ≥ 10 mg (OR range = 1.23-1.75, $p < 0.03$). However, neither the duration nor the dose of oral GC increased the risk of hip and nonvertebral/nonhip fractures in patients with RA. Consistent results were observed in RA patients without osteoporosis. CONCLUSION: Longer duration and higher dose of oral GC in patients with RA increased the risk of vertebral fractures. However, the dose and duration of GC did not influence the risk of hip and nonvertebral/nonhip fractures.

Menopause. 2018 Mar 12. doi: 10.1097/GME.0000000000001085. [Epub ahead of print]

Effects of dietary and exercise intervention on weight loss and body composition in obese postmenopausal women: a systematic review and meta-analysis.

Cheng CC, Hsu CY, Liu JF.

OBJECTIVE: This study examined the effects of dietary and exercise interventions on weight loss and body composition in overweight/obese peri- and postmenopausal women. METHODS: Medline, Central, Embase, and Google Scholar databases were searched for relevant trials conducted until December 31, 2016. Randomized controlled trials (RCTs) and prospective studies of overweight/obese peri- or postmenopausal women that examined the effects of dietary or exercise interventions, alone or combined, on weight loss were included. The primary outcome was percentage reduction in body weight. RESULTS: From 292 studies initially identified, 11 studies with 12 sets of participants were included. Both dietary and exercise intervention groups had significantly greater weight loss than control groups (diet vs control: difference in means=-6.55, 95% CI, -9.51 to -3.59, $P<0.001$; exercise vs control: difference in means=-3.49, 95% CI, -6.96 to -0.02, $P=0.049$). Combined dietary and exercise interventions resulted in greater weight loss than dietary interventions alone (diet plus exercise vs diet: difference in means=-1.22, 95% CI, -2.14 to -0.29, $P=0.010$). Diet plus exercise resulted in greater fat loss (difference in means=-0.44, 95% CI, -0.67 to -0.20, $P<0.001$) and greater lean mass loss (difference in means=-0.84, 95% CI, -1.13 to -0.55, $P<0.001$) than diet alone. CONCLUSIONS: Dietary interventions reduced body weight and body composition profile parameters in peri- and postmenopausal women more than exercise alone. The addition of exercise reinforced the effect of dietary interventions on changing body weight and composition.

Clin Nutr. 2018 Mar 2. pii: S0261-5614(18)30089-X. doi: 10.1016/j.clnu.2018.02.024. [Epub ahead of print]

Body mass index represents a good predictor of vitamin D status in women independently from age.

Delle Monache S, Di Fulvio P, Iannetti E, Valerii L, Capone L, Nespoli MG, Bologna M, Angelucci A.

BACKGROUND & AIMS: Vitamin D is a pleiotropic hormone targeting several tissues and is involved in basic homeostatic processes, including bone mineralization, immune response and muscle strength. Although hypovitaminosis D is common in Europe and North America, representing a risk factor for several chronic diseases, the contribution of factors other than sun exposure is largely underestimated. METHODS: In our study, we retrospectively collected data from medical records of women with age between 19 and 80 screened in Central Italy (42°N) for increased risk of metabolic syndrome. Vitamin D status was evaluated by serum 25-hydroxyvitamin D (25(OH)D) measurement and the association among vitamin D status and anthropometric and clinic variables was tested by multivariate logistic analysis. RESULTS: More than 80% of women presented serum 25(OH)D concentration lower than 30 ng/mL (75 nM), with the majority of values falling between 10 and 20 ng/mL. 25(OH)D concentration was dependent on season, with the highest 25(OH)D mean value measured in September and the lowest mean value in March. Among different clinical characteristics, body mass index (BMI) demonstrated the highest significant inverse correlation with serum 25(OH)D values, independently from season and age. Serum 25(OH)D values demonstrated a seasonal-directed sinusoidal trend and they raised during spring/summer in a similar manner in both obese and non-obese women. However, the obese group had lower mean values of vitamin D respect to overweight and to normal

weight groups in both winter and summer, reaching frequently the status of vitamin D deficiency (<10 ng/mL). CONCLUSIONS: In conclusion, at our latitude, seasonal UV irradiance availability determines an obligate sinusoidal trend in vitamin D status. However, body mass is able to reduce proportionally circulating vitamin D over calendar months determining vitamin D deficiency. These results suggest taking in particular account BMI in clinical management of vitamin D status in overweight and obese women.

J Bone Miner Res. 2018 Mar 12. doi: 10.1002/jbmr.3420. [Epub ahead of print]

Bisphosphonate Drug Holiday and Fracture Risk: A Population-Based Cohort Study.

Adams AL, Adams JL, Raebel MA, Tang BT, Kuntz JL, Vijayadeva V, McGlynn EA, Gozansky WS.

Holidays from bisphosphonates (BPs) may help to prevent rare adverse events like atypical femoral fractures, but may be appropriate only if risk of osteoporosis-related fractures does not increase. Our objective was to compare the incidence of osteoporosis-related fractures among women who had a bisphosphonate (BP) holiday to those who continued use BPs. This retrospective cohort study, conducted within 4 Kaiser Permanente integrated health system regions, included 39,502 women aged ≥45 years with ≥3 years exposure to BP. Participants with a BP holiday (≥12 months with no use) were compared to persistent (use with ≥50% adherence) and non-persistent (use with <50% adherence) users for incident osteoporosis-related fractures. The BP holiday (n = 11,497), non-persistent user (n = 10,882), and persistent user groups (n = 17,123) were observed for 156,657 person-years. A total of 5,199 osteoporosis-related fractures (including 1,515 hip fractures and 2,147 vertebral fractures) were observed. Compared to the persistent use group, there was a slight difference in overall osteoporosis-related fracture risk (HR 0.92, 95% CI 0.84-0.99)and no difference in hip fracture risk (HR 0.95, 95% CI 0.83-1.10) for the BP holiday group. A slight reduction in risk of vertebral fracture was observed (HR 0.83, 95% CI 0.74-0.95). Compared to the non-persistent user group, the BP holiday group was at decreased risk for osteoporosis-related fractures (HR 0.71, 95% CI 0.65-0.79), vertebral fractures (HR 0.68, 95% CI 0.59-0.78), and hip fractures (HR 0.59; 95% CI 0.50-0.70). Women who undertake a BP holiday from BP of ≥12 months duration for any reason after ≥3 years of BP use do not appear to be at greater risk of osteoporosis-related fragility fracture, hip, or vertebral fractures compared to ongoing BP users. In our cohort, BP holiday remains a viable strategy for balancing the benefits and potential harms associated with long-term BP use.

Front Physiol. 2018 Feb 23;9:112. doi: 10.3389/fphys.2018.00112. eCollection 2018.

Obesity, Metabolic Syndrome, and Musculoskeletal Disease: Common Inflammatory Pathways Suggest a Central Role for Loss of Muscle Integrity.

Collins KH, Herzog W, MacDonald GZ, Reimer RA, Rios JL, Smith IC1, Zernicke RF, Hart DA.

Inflammation can arise in response to a variety of stimuli, including infectious agents, tissue injury, autoimmune diseases, and obesity. Some of these responses are acute and resolve, while others become chronic and exert a sustained impact on the host, systemically, or locally. Obesity is now recognized as a chronic low-grade, systemic inflammatory state that predisposes to other chronic conditions including metabolic syndrome (MetS). Although obesity has received considerable attention regarding its pathophysiological link to chronic cardiovascular conditions and type 2 diabetes, the musculoskeletal (MSK) complications (i.e., muscle, bone, tendon, and joints) that result from obesity-associated metabolic disturbances are less frequently interrogated. As musculoskeletal diseases can lead to the worsening of MetS, this underscores the imminent need to understand the cause and effect relations between the two, and the convergence between inflammatory pathways that contribute to MSK damage. Muscle mass is a key predictor of longevity in older adults, and obesity-induced sarcopenia is a significant risk factor for adverse health outcomes. Muscle is highly plastic, undergoes regular remodeling, and is responsible for the majority of total body glucose utilization, which when impaired leads to insulin resistance. Furthermore, impaired muscle integrity, defined as persistent muscle loss, intramuscular lipid accumulation, or connective tissue deposition, is a hallmark of metabolic dysfunction. In fact, many common inflammatory pathways have been implicated in the pathogenesis of the interrelated tissues of the musculoskeletal system (e.g., tendinopathy, osteoporosis, and osteoarthritis). Despite these similarities, these diseases are rarely evaluated in a comprehensive manner. The aim of this review is to summarize the common pathways that lead to musculoskeletal damage and disease that result from and contribute to MetS. We propose the overarching hypothesis that there is a central role for muscle damage with chronic exposure to an obesity-inducing diet. The inflammatory consequence of diet and muscle dysregulation can result in dysregulated tissue repair and an imbalance

toward negative adaptation, resulting in regulatory failure and other musculoskeletal tissue damage. The commonalities support the conclusion that musculoskeletal pathology with MetS should be evaluated in a comprehensive and integrated manner to understand risk for other MSK-related conditions. Implications for conservative management strategies to regulate MetS are discussed, as are future research opportunities.

Climacteric. 2018 Mar 11:1-8. doi: 10.1080/13697137.2018.1439915. [Epub ahead of print]

Menopausal hormone therapy: a better and safer future.

Davey DA.

Major advances in menopause hormone therapy (MHT) hold promise in the future of better and safer care for women at and after the menopause. The principal advances are: (1) the critical window or 'window of opportunity' in the 10 years or so after the menopause, during which the benefits of MHT in healthy women exceed any risks; (2) use of transdermal instead of oral administration of estrogen to reduce the risk of venous thromboembolism; (c) investigation of the use of oral micronized progesterone (MP) and vaginal MP to prevent endometrial hyperplasia and carcinoma without any increased risk of breast cancer and venous thromboembolism in postmenopausal women receiving estrogens; vaginal MP prevents endometrial proliferation in the short term but the long-term effects in MHT remain to be established; (4) investigation into the use of intrauterine levonorgestrel-releasing devices (LNG-IUDs), which are an attractive form of MHT in perimenopausal women, providing contraception and reducing uterine bleeding, although the risk of breast cancer with LNG-IUDs requires clarification. Women in the future can look forward to a symptom-free menopause and to safer and more beneficial MHT.