

## Selección de Resúmenes de Menopausia

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### **Bone Health in Patients With Inflammatory Bowel Diseases.**

Chedid VG1, Kane SV2.

Inflammatory bowel disease (IBD) is a chronic inflammatory medical condition with relapses and remission. Metabolic bone disease, including osteoporosis, is associated with IBD and imparts a significant morbidity if pathologic fractures were to occur. There has been a significant amount of research that evaluated the pathophysiology and associations between IBD and osteoporosis. Although corticosteroids contribute to the risk of low bone mineral density, osteoporosis and fractures, older age, female gender, smoking, and family history of fracture have been shown to contribute. Additionally, intestinal inflammation affects bone resorption and formation through proinflammatory cytokines such as tumor necrosis factor- $\alpha$ , interleukin-1, and interleukin-6 further accelerating bone loss. Little information is available on standardizing screening or treatment. It is important to recognize the risk factors that are associated with IBD and osteoporosis to identify the patient population at risk and initiate treatment/prevention strategies early. Treatment can include calcium, vitamin D, or bisphosphonates. Some studies showed benefit of treating the underlying IBD to improve bone mineral density.

**Hum Reprod Update. 2019 Aug 2. pii: dmz020. doi: 10.1093/humupd/dmz020. [Epub ahead of print]**

### **Negative impact of polycystic ovary syndrome on bone health: a systematic review and meta-analysis.**

Piovezan JM1, Premaor MO1,2, Comim FV1,2.

**BACKGROUND:** Polycystic ovary syndrome (PCOS) has reproductive and metabolic aspects that may affect bone health. Controversial results from different studies regarding the risk of fractures, bone mineral density (BMD) or bone markers led to uncertainty whether PCOS might improve or deteriorate bone health. **OBJECTIVE AND RATIONALE:** This study aimed to investigate the impact of PCOS on bone markers, BMD and fracture risk. **SEARCH METHODS:** A systematic review and a meta-analysis were carried out. PubMed, EMBASE and Cochrane databases were searched for eligible studies from 1st of January of 1990 to 9th of October of 2018. Eligible studies enrolled women older than 18 years with PCOS, which should be diagnosed according to the Rotterdam Consensus, the Androgen Excess Society, the National Institutes of Health Consensus or the International Classification of Diseases. The studies were grouped according to patient mean BMI:  $<27$  kg/m<sup>2</sup> or  $\geq 27$  kg/m<sup>2</sup>. The results were pooled as mean difference (MD), standardized MD (SMD) and hazard ratio (HR). **OUTCOMES:** Overall, 921 studies were retrieved, and 31 duplicated studies were removed. After screening the titles and abstracts, 80 studies were eligible for full text reading. Of those, 23 studies remained for qualitative synthesis. With the exception of one study, all studies were considered high quality based on the Newcastle-Ottawa scale (NOS; score  $\geq 6$ ). Meta-analysis was performed in 21 studies, with a total of 31 383 women with PCOS and 102 797 controls. Women with PCOS with BMI  $<27$  kg/m<sup>2</sup> had lower BMD of the total femur (MD, -0.04; 95% CI, -0.07 to 0.00; I<sup>2</sup> = 31%; P = 0.22) and spine (MD, -0.07; 95% CI, -0.13 to -0.01; I<sup>2</sup> = 70%; P < 0.01) when compared with the control group, whereas for women with BMI  $\geq 27$  kg/m<sup>2</sup> no difference was observed (femur: MD, 0.02; 95% CI, -0.02 to 0.05; I<sup>2</sup> = 20%, P = 0.29; spine: MD, 0.02; 95% CI, -0.06 to 0.05; I<sup>2</sup> = 0%; P = 0.84). Osteocalcin was remarkably reduced in women with PCOS with BMI  $<27$  kg/m<sup>2</sup> (SMD, -2.68; 95% CI, -4.70 to -0.67; I<sup>2</sup> = 98%; P < 0.01), but in women with BMI  $\geq 27$  kg/m<sup>2</sup>, there were no differences between PCOS and controls. Few studies (n = 3) addressed the incidence of bone fractures in women with PCOS. The HR for total bone fractures did not identify differences between women with PCOS and controls. **WIDER IMPLICATIONS:** On the basis of the available evidence, it is possible to assume that PCOS in women with BMI  $<27$  kg/m<sup>2</sup> is associated with reduced BMD in the spine and femur, and decreased bone formation, as manifested by lower levels of circulating osteocalcin. These findings suggest that bone parameters in PCOS may be linked, to some extent, to adiposity. These studies included premenopausal women, who have already achieved peak bone mass. Hence, further prospective studies are necessary to clarify the existence of increased risk of fractures in women with PCOS.

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## **Bisphosphonates and mortality: confounding in observational studies?**

Bergman J1, Nordström A2,3, Hommel A4, Kivipelto M5,6,7, Nordström P8.

Numerous observational studies suggest that bisphosphonates reduce mortality. This study showed that bisphosphonate use is associated with lower mortality within days of treatment, although the association was not significant until the second week. Such an early association is consistent with confounding, although an early treatment effect cannot be ruled out. **INTRODUCTION:** The purpose of this study was to examine whether confounding explains why numerous observational studies show that bisphosphonate use is associated with lower mortality. To this end, we examined how soon after treatment initiation a lower mortality rate can be observed. We hypothesized that, due to confounding, the association would be observed immediately. **METHODS:** This was a retrospective cohort study of hip fracture patients discharged from Swedish hospitals between 1 July 2006 and 31 December 2015. The data covered 260,574 hip fracture patients and were obtained from the Swedish Hip Fracture Register and national registers. Of the 260,574 patients, 49,765 met all eligibility criteria and 10,178 were pair matched (bisphosphonate users to controls) using time-dependent propensity scores. The matching variables were age, sex, diagnoses, prescription medications, type of hip fracture, type of surgical procedure, known or suspected dementia, and physical functioning status. **RESULTS:** Over a median follow-up of 2.8 years, 2922 of the 10,178 matched patients died. The mortality rate was 7.9 deaths per 100 person-years in bisphosphonate users and 9.4 deaths in controls, which corresponded to a 15% lower mortality rate in bisphosphonate users (hazard ratio 0.85, 95% confidence interval 0.79-0.91). The risk of death was lower in bisphosphonate users from day 6 of treatment, although the association was not significant until the second week. **CONCLUSION:** Bisphosphonate use was associated with lower mortality within days of treatment initiation. This finding is consistent with confounding, although an early treatment effect cannot be ruled out.

**Medicina (Kaunas). 2019 Jul 29;55(8). pii: E415. doi: 10.3390/medicina55080415.**

## **Risk-Reducing Bilateral Salpingo-Oophorectomy for BRCA Mutation Carriers and Hormonal Replacement Therapy: If It Should Rain, Better a Drizzle than a Storm.**

Gasparri ML1, Taghavi K2, Fiacco E3, Zuber V3, Di Micco R3,4, Gazzetta G3, Valentini A3, Mueller MD5, et al.

Women carrying a BRCA mutation have an increased risk of developing breast and ovarian cancer. The most effective strategy to reduce this risk is the bilateral salpingo-oophorectomy, with or without additional risk-reducing mastectomy. Risk-reducing bilateral salpingo-oophorectomy (RRBSO) is recommended between age 35 and 40 and between age 40 and 45 years for women carriers of BRCA1 and BRCA2 mutations, respectively. Consequently, most BRCA mutation carriers undergo this procedure prior to a natural menopause and develop an anticipated lack of hormones. This condition has a detrimental impact on various systems, affecting both the quality of life and longevity; in particular, women carrying BRCA1 mutation, who are likely to have surgery earlier as compared to BRCA2. Hormonal replacement therapy (HRT) is the only effective strategy able to significantly compensate the hormonal deprivation and counteract menopausal symptoms, both in spontaneous and surgical menopause. Although recent evidence suggests that HRT does not diminish the protective effect of RRBSO in BRCA mutation carriers, concerns regarding the safety of estrogen and progesterone intake reduce the use in this setting. Furthermore, there is strong data demonstrating that the use of estrogen alone after RRBSO does not increase the risk of breast cancer among women with a BRCA1 mutation. The additional progesterone intake, mandatory for the protection of the endometrium during HRT, warrants further studies. However, when hysterectomy is performed at the time of RRBSO, the indication of progesterone addition decays and consequently its potential effect on breast cancer risk. Similarly, in patients conserving the uterus but undergoing risk-reducing mastectomy, the addition of progesterone should not raise significant concerns for breast cancer risk anymore. Therefore, BRCA mutation carriers require careful counselling about the scenarios following their RRBSO, menopausal symptoms or the fear associated with HRT use.

**JNCI Cancer Spectr. 2019 Jan 7;2(4):pky065. doi: 10.1093/jncics/pky065. eCollection 2018 Oct.**

## **Low-Fat Dietary Pattern and Cancer Mortality in the Women's Health Initiative (WHI) Randomized Controlled Trial.**

Chlebowski RT<sup>1</sup>, Anderson GL<sup>2</sup>, Manson JE<sup>3</sup>, Prentice RL<sup>2</sup>, Aragaki AK<sup>2</sup>, Snetselaar L<sup>4</sup>, Beresford SAA<sup>5</sup>, et al. Background: In the Women's Health Initiative Dietary Modification trial, a low-fat dietary pattern reduced deaths after breast cancer. Mortality from other cancer sites has not been reported. Methods: A low-fat dietary pattern influence on deaths from and after site-specific cancers was examined during 8.5 years (median) of dietary intervention and cumulatively during 17.7 years (median) of follow-up. A total 48 835 postmenopausal women, ages 50-79 years, were randomly assigned from 1993 to 1998 at 40 US clinical centers to dietary intervention (40%, n = 19 541 or a usual diet comparison group (60%, n = 29 294). Dietary intervention influence on mortality from protocol-specified cancers (breast, colon and rectum, endometrium and ovary), individually and as a composite, represented the primary analyses. Results: During the dietary intervention period, a reduction in deaths after breast cancer (HR = 0.65 95% CI = 0.45 to 0.94, P = .02) was the only statistically significant cancer mortality finding. During intervention, the HRs for deaths after the protocol-specified cancer composite were 0.90 (95% CI = 0.73 to 1.10) and 0.95 (95% CI = 0.85 to 1.06) for deaths after all cancers. During 17.7 years of follow-up with 3867 deaths after all cancers, reduction in deaths after breast cancer continued in the dietary intervention group (HR = 0.85, 95% CI = 0.74 to 0.99, P = .03). However, no dietary intervention influence on deaths from or after any other cancer or cancer composite was seen. Conclusions: A low-fat dietary pattern reduced deaths after breast cancer. No reduction in mortality from or after any other cancer or cancer composite was seen.

**JNCI Cancer Spectr. 2018 Aug 11;2(3):pky034. doi: 10.1093/jncics/pky034. eCollection 2018 Jul.**

### **Mortality and Risk of Cancer After Prophylactic Bilateral Oophorectomy in Women With a Family History of Cancer.**

Abildgaard J<sup>1</sup>, Ahlström MG<sup>2</sup>, Daugaard G<sup>3</sup>, Nielsen DL<sup>4</sup>, Pedersen AT<sup>5</sup>, Lindegaard B<sup>1,6</sup>, Obel N<sup>2</sup>.

Background: Current international guidelines recommend systemic hormone therapy (HT) to oophorectomized women until the age of natural menopause. Despite an inherited predisposition to estrogen-dependent malignancies, the guidelines also apply to women oophorectomized because of a family history of cancer. The objective of this study was to investigate the impact of HT on mortality and risk of cancer in women oophorectomized because of a family history of cancer. Methods: A nationwide, population-based cohort was used to study women oophorectomized because of a family history of cancer (n = 2002). Comparison cohorts included women from the background population individually matched on age (n = 18 018). Oophorectomized women were subdivided into three groups: oophorectomized at 1) age 45 years or younger not using HT, 2) age 45 years or younger using HT, 3) older than age 45 years, and their respective population comparison cohorts. Results: Women oophorectomized at age 45 years or younger using HT had increased overall mortality (mortality rate ratio [MRR] = 3.45, 95% confidence interval [CI] = 1.53 to 7.79), mortality because of cancer (MRR = 5.67, 95% CI = 1.86 to 17.34), and risk of overall cancer (incidence rate ratio [IRR] = 3.68, 95% CI = 1.93 - 6.98), primarily reflected in an increased risk of breast cancer (IRR = 4.88, 95% CI = 2.19 - 10.68). Women oophorectomized at age 45 years or younger not using HT and women oophorectomized at older than age 45 years did not have increased mortality, mortality because of cancer, or risk of overall cancer, but they had increased risk of breast cancer (IRR = 2.64, 95% CI = 1.14 to 6.13, and IRR = 1.72, 95% CI = 1.14 to 2.59, respectively). Conclusions: Use of HT in women oophorectomized at age 45 years or younger with a family history of cancer is associated with increased mortality and risk of overall cancer and breast cancer. Our study warrants further investigation to establish the impact of HT on mortality and cancer risk in oophorectomized women with a family history of cancer.

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### **Subclinical hypothyroidism in pregnancy.**

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PURPOSE OF REVIEW: Subclinical hypothyroidism (SCH) is a common diagnosis among women of reproductive age. The importance of sufficient maternal thyroid supply during pregnancy is well known. Nevertheless, the effects of SCH during pregnancy and the efficacy of its treatment on maternofetal outcomes are not well established. This review discusses the recent evidence on SCH in pregnancy and how this evidence is reflected in current clinical care. RECENT FINDINGS: Recent observational studies have found a positive association between SCH during pregnancy and adverse maternal, neonatal and offspring outcomes, mainly in thyroid peroxidase autoantibody positive women. Although interventional studies have shown a benefit of levothyroxine (LT4) treatment on selected pregnancy outcomes, there was no effect on offspring neurodevelopment. SUMMARY: Current evidence

strengthens the association between SCH with both maternofetal and offspring adverse outcomes. An earlier and more individualized diagnostic assessment taking into consideration predictors of thyroid dysfunction and major risk factors for complications could result in better management of SCH during pregnancy. The effectiveness of LT4 on improving maternofetal and long-term offspring outcomes is still not fully elucidated.

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### **Safety and efficacy of testosterone for women: a systematic review and meta-analysis of randomised controlled trial data.**

Islam RM1, Bell RJ1, Green S2, Page MJ2, Davis SR3.

**BACKGROUND:** The benefits and risks of testosterone treatment for women with diminished sexual wellbeing remain controversial. We did a systematic review and meta-analysis to assess potential benefits and risks of testosterone for women. **METHODS:** We searched MEDLINE, Embase, the Cochrane Central Register of Controlled Trials, and Web of Science for blinded, randomised controlled trials of testosterone treatment of at least 12 weeks' duration completed between Jan 1, 1990, and Dec 10, 2018. We also searched drug registration applications to the European Medicine Agency and the US Food and Drug Administration to identify any unpublished data. Primary outcomes were the effects of testosterone on sexual function, cardiometabolic variables, cognitive measures, and musculoskeletal health. This study is registered with the International Prospective Register of Systematic Reviews (PROSPERO), number CRD42018104073. **FINDINGS:** Our search strategy retrieved 46 reports of 36 randomised controlled trials comprising 8480 participants. Our meta-analysis showed that, compared with placebo or a comparator (eg, oestrogen, with or without progestogen), testosterone significantly increased sexual function, including satisfactory sexual event frequency (mean difference 0.85, 95% CI 0.52 to 1.18), sexual desire (standardised mean difference 0.36, 95% CI 0.22 to 0.50), pleasure (mean difference 6.86, 95% CI 5.19 to 8.52), arousal (standardised mean difference 0.28, 95% CI 0.21 to 0.35), orgasm (standardised mean difference 0.25, 95% CI 0.18 to 0.32), responsiveness (standardised mean difference 0.28, 95% CI 0.21 to 0.35), and self-image (mean difference 5.64, 95% CI 4.03 to 7.26), and reduced sexual concerns (mean difference 8.99, 95% CI 6.90 to 11.08) and distress (standardised mean difference -0.27, 95% CI -0.36 to -0.17) in postmenopausal women. A significant rise in the amount of LDL-cholesterol, and reductions in the amounts of total cholesterol, HDL-cholesterol, and triglycerides, were seen with testosterone administered orally, but not when administered non-orally (eg, by transdermal patch or cream). An overall increase in weight was recorded with testosterone treatment. No effects of testosterone were reported for body composition, musculoskeletal variables, or cognitive measures, although the number of women who contributed data for these outcomes was small. Testosterone was associated with a significantly greater likelihood of reporting acne and hair growth, but no serious adverse events were recorded. **INTERPRETATION:** Testosterone is effective for postmenopausal women with low sexual desire causing distress, with administration via non-oral routes (eg, transdermal application) preferred because of a neutral lipid profile. The effects of testosterone on individual wellbeing and musculoskeletal and cognitive health, as well as long-term safety, warrant further investigation.