



## Selección de Resúmenes de Menopausia

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**Int J Mol Sci. 2017 Nov 3;18(11). pii: E2325. doi: 10.3390/ijms18112325.**

### Estrogen Effects on Wound Healing.

Hornig HC, Chang WH, Yeh CC, Huang BS, Chang CP, Chen YJ, Tsui KH, Wang PH.

Wound healing is a physiological process, involving three successive and overlapping phases- hemostasis/inflammation, proliferation, and remodeling- to maintain the integrity of skin after trauma, either by accident or by procedure. Any disruption or unbalanced distribution of these processes might result in abnormal wound healing. Many molecular and clinical data support the effects of estrogen on normal skin homeostasis and wound healing. Estrogen deficiency, for example in postmenopausal women, is detrimental to wound healing processes, notably inflammation and re-granulation, while exogenous estrogen treatment may reverse these effects. Understanding the role of estrogen on skin might provide further opportunities to develop estrogen-related therapy for assistance in wound healing.

**J Chiropr Med. 2017 Sep;16(3):199-203. doi: 10.1016/j.jcm.2017.08.001. Epub 2017 Sep 20.**

### Comparison of Central and Peripheral Bone Mineral Density Measurements in Postmenopausal Women.

Abdelmohsen AM.

The purpose of the current study was to compare central and peripheral bone mineral density at different regions including spine, hip, and wrist in postmenopausal women. Methods: Forty postmenopausal women participated in this study. Their mean age, body mass, height, and body mass index were  $53.5 \pm 2.75$  y,  $68.6 \pm 8.68$  kg,  $167.8 \pm 6.46$  cm, and  $24.31 \pm 1.69$  kg/m<sup>2</sup>, respectively. Bone mineral density (BMD) T-scores of spine, hip, and wrist regions were measured for all participants with a dual-energy X-ray absorptiometry scan. Results: All measured regions (spine, hip, and wrist) had low BMD T-scores. Bone mineral density of the wrist was significantly lower ( $-2.58 \pm 2.18$ ) than that of both spine ( $-1.79 \pm 0.98$ ) and hip ( $-1.69 \pm 1.37$ ). In addition, there were no statistically significant differences in BMD between the spine and hip. Conclusions: In this group of postmenopausal women, wrist BMD decreased more than spine and hip BMD. Both spine and hip BMD decreased by nearly the same percentage in postmenopausal women. Peripheral sites may be more representative of osteoporosis than central sites.

**J Am Heart Assoc. 2017 Nov 2;6(11). pii: e006713. doi: 10.1161/JAHA.117.006713.**

### Duration of Reproductive Life Span, Age at Menarche, and Age at Menopause Are Associated With Risk of Cardiovascular Disease in Women.

Ley SH, Li Y, Tobias DK, Manson JE, Rosner B, Hu FB, Rexrode KM.

BACKGROUND: Although the timing of menarche and menopause may be associated with cardiovascular disease (CVD), the entire reproductive life span has not been considered comprehensively as risk for CVD. We investigate the associations of reproductive life span duration and ages at menarche and menopause, induced by natural means or surgical bilateral oophorectomy, with incident CVD in women. METHODS AND RESULTS: Prospective cohort study of 73 814 Nurses' Health Study following participants without CVD, defined as incident coronary heart disease or stroke, from 1980 through 2012. Duration of reproductive life span was generated by subtracting age at menarche from age at menopause. A shorter reproductive life span was associated with a higher risk of incident CVD after multivariable adjustment (relative risk, 1.32 [95% confidence interval, 1.16-1.49] comparing duration <30 with  $\geq 42$  years;  $P$  trend < 0.0001). Early age at menopause was associated with higher multivariable-adjusted CVD risk (1.32 [1.16-1.51] comparing age <40 with 50 to <55 years;  $P$  trend < 0.0001), with excess risk for both natural and surgical menopause. Compared with women with menarche at 13 years, the multivariable-adjusted CVD risk for early menarche at  $\leq 10$  years was 1.22 (1.09-1.36). The association between reproductive life span and CVD remained significant in sensitivity analyses excluding women who experienced extreme early age at menarche or who used hormone therapy. CONCLUSIONS: A shorter duration of reproductive life span is associated with a higher risk of

CVD, which is likely driven by the timing of menopause induced either naturally or surgically. Extremely early age at menarche is also associated with a higher risk of CVD

**J Am Heart Assoc. 2017 Oct 31;6(11). pii: e007409. doi: 10.1161/JAHA.117.007409.**

### **Loss of Female Sex Hormones Exacerbates Cerebrovascular and Cognitive Dysfunction in Aortic Banded Mini-swine Through a Neuropeptide Y-Ca<sup>2+</sup>-Activated Potassium Channel-Nitric Oxide Mediated Mechanism.**

Olver TD, Hiemstra JA, Edwards JC, Schachtman TR, Heesch CM, Fadel PJ, Laughlin MH, Emter CA.

**BACKGROUND:** Postmenopausal women represent the largest cohort of patients with heart failure with preserved ejection fraction, and vascular dementia represents the most common form of dementia in patients with heart failure with preserved ejection fraction. Therefore, we tested the hypotheses that the combination of cardiac pressure overload (aortic banding [AB]) and the loss of female sex hormones (ovariectomy [OVX]) impairs cerebrovascular control and spatial memory. **METHODS AND RESULTS:** Female Yucatan miniswine were separated into 4 groups (n=7 per group): (1) control, (2) AB, (3) OVX, and (4) AB-OVX. Pigs underwent OVX and AB at 7 and 8 months of age, respectively. At 14 months, cerebral blood flow velocity and spatial memory (spatial hole-board task) were lower in the OVX groups (P<0.05), with significant impairments in the AB-OVX group (P<0.05). Resting carotid artery  $\beta$  stiffness and vascular resistance during central hypovolemia were increased in the AB-OVX group (P<0.05), and blood flow recovery after central hypovolemia was reduced in both OVX groups (P<0.05). Isolated pial artery (pressure myography) vasoconstriction to neuropeptide Y was greatest in the AB-OVX group (P<0.05), and vasodilation to the Ca<sup>2+</sup>-activated potassium channel  $\alpha$ -subunit agonist NS-1619 was impaired in both AB groups (P<0.05). The ratio of phosphorylated endothelial nitric oxide synthase:total endothelial nitric oxide synthase was depressed and Ca<sup>2+</sup>-activated potassium channel  $\alpha$ -subunit protein was increased in AB groups (P<0.05). **CONCLUSIONS:** Mechanistically, impaired cerebral blood flow control in experimental heart failure may be the result of heightened neuropeptide Y-induced vasoconstriction along with reduced vasodilation associated with decreased Ca<sup>2+</sup>-activated potassium channel function and impaired nitric oxide signaling, the effects of which are exacerbated in the absence of female sex hormones.

**Menopause. 2017 Oct 30. doi: 10.1097/GME.0000000000001020. [Epub ahead of print]**

### **Association of vasomotor symptoms and sleep apnea risk in midlife women.**

Gao CC, Kapoor E, Lipford MC, Miller VM, Schroeder DR, Mara KC, Faubion SS.

**OBJECTIVE:** The aim of the study was to determine the association between self-reported vasomotor symptoms (VMS) and obstructive sleep apnea (OSA) risk. **METHODS:** The STOP-BANG to evaluate OSA and Menopause Rating Scale (MRS) were administered to 2,935 women seen in the Women's Health Clinic at Mayo Clinic in Rochester, MN, between May 2015 and December 2016. Of these, 1,691 women were included in the analysis. Total MRS and VMS ratings were compared using logistic regression, with age, smoking, and body mass index (BMI) included as covariates between women at intermediate/high risk versus low risk for OSA. **RESULTS:** Total MRS scores were significantly higher in women with intermediate/high-risk OSA scores versus those with low-risk scores [mean (SD): 16.8 (8.0) vs 12.9 (7.0), P<0.001]. Women at intermediate/high OSA risk were older, had more education, self-reported hypertension, BMI >35kg/m, and were less likely to be married or employed. Self-reported severe/very severe VMS were significantly associated with intermediate/high risk versus low risk for OSA (26.6% vs 15.0%; P<0.001). After adjusting for age, BMI, smoking status, and self-reported hypertension, the odds of having intermediate/high risk for OSA were 1.87 times higher for those with severe/very severe VMS compared with those with none/mild/moderate VMS (95% CI, 1.29-2.71, P<0.001). This association persisted upon subgroup analysis based on BMI <25kg/m (odds ratio 2.15; 95% CI, 1.12-4.16, P = 0.022). **CONCLUSIONS:** Self-reported severe/very severe VMS were associated with intermediate/high risk for OSA in midlife women, even in women with BMI <25kg/m. Given the limitations of the STOP-BANG tool, OSA risk may, however, have been overestimated.

**Hum Reprod. 2017 Oct 25;1-10. doi: 10.1093/humrep/dex304. [Epub ahead of print]**

### **Adult adiposity and risk of early menopause.**

Szegda KL, Whitcomb BW, Purdue-Smithe AC, Boutot ME, Manson JE, Hankinson SE, Rosner BA, et al.

**STUDY QUESTION:** Is adult adiposity associated with early menopause? **SUMMARY ANSWER:** Overall and abdominal adiposity were non-linearly associated with odds for early natural menopause with elevated odds observed among women who were underweight in early or mid-adulthood compared to lean-normal weight women. **WHAT IS KNOWN ALREADY:** High and low adiposity have been associated with reproductive function and may potentially impact timing of menopause. It is unclear whether various aspects of adiposity are associated with risk of early menopause. **STUDY DESIGN, SIZE, DURATION:** Prospective cohort study that examined data from 78 759 premenopausal women from the Nurses' Health Study II who were followed from 1989 to 2011 for incidence of early natural menopause. **PARTICIPANTS/MATERIALS, SETTING, METHODS:** Participants were aged 25-42 years and premenopausal at baseline in 1989, when information on menopausal status, height and weight was reported via questionnaire. Information on menopausal status, type of menopause (natural, surgical, radiation/chemotherapy), hormone therapy use and weight was updated every two years along with information on smoking, physical activity and other behavioral and health-related factors. Multivariable logistic regression was used to estimate odds ratios for early menopause, defined as natural menopause before age 45 years, by aspects of adiposity. **MAIN RESULTS AND THE ROLE OF CHANCE:** Early natural menopause was reported by 2804 participants. Body mass index (BMI) was non-linearly associated with risk for early menopause. Compared to women with BMI = 18.5-22.4 kg/m<sup>2</sup>, those with BMI < 18.5 kg/m<sup>2</sup> had a significant 30% higher odds of early menopause (95% confidence interval (CI) = 1.08, 1.57), while women with BMIs between 25.0-29.9 kg/m<sup>2</sup> had significant 21-30% lower odds. Odds were not higher in women with BMI ≥ 35.0 kg/m<sup>2</sup> in fully adjusted analysis. Non-linear associations with higher odds in underweight women were also observed for age 18 and age 35 BMI, though lower odds for overweight women was only observed for age 35 BMI. Odds were highest among women with age 18 BMI < 18.5 kg/m<sup>2</sup> reporting severe weight cycling. **LIMITATIONS, REASONS FOR CAUTION:** Though weight and early menopause status were self-reported, validation studies conducted among Nurses' Health Study participants suggest that self-reported weight is highly correlated with directly measured weight, and prospective self-reported menopausal status is highly reproducible. It is possible that underweight women may have been misclassified with an earlier age at menopause if being underweight led to amenorrhea. **WIDER IMPLICATIONS OF THE FINDINGS:** In one of the few studies to prospectively examine a variety of adiposity measures and risk for early menopause, our findings that women who were underweight in early or mid-adulthood had elevated risk for early menopause can assist in efforts to better understand the etiology of early menopause. Additional prospective research is needed to understand how low adiposity may physiologically impact timing of menopause.

**J Headache Pain. 2017 Oct 30;18(1):108. doi: 10.1186/s10194-017-0815-1.**

### **Hormonal contraceptives and risk of ischemic stroke in women with migraine: a consensus statement from the European Headache Federation (EHF) and the European Society of Contraception and Reproductive Health (ESC).**

Sacco S, Merki-Feld GS, Aegidius KL, Bitzer J, Canonico M, Kurth T, Lampl C, Lidegaard Ø, Anne MacGregor E, et al. European Headache Federation (EHF) and the European Society of Contraception and Reproductive Health (ESC). Several data indicate that migraine, especially migraine with aura, is associated with an increased risk of ischemic stroke and other vascular events. Of concern is whether the risk of ischemic stroke in migraineurs is magnified by the use of hormonal contraceptives. As migraine prevalence is high in women of reproductive age, it is common to face the issue of migraine and hormonal contraceptive use in clinical practice. In this document, we systematically reviewed data about the association between migraine, ischemic stroke and hormonal contraceptive use. Thereafter a consensus procedure among international experts was done to develop statements to support clinical decision making, in terms of cardiovascular safety, for prescription of hormonal contraceptives to women with migraine. Overall, quality of current evidence regarding the risk of ischemic stroke in migraineurs associated with the use of hormonal contraceptives is low. Available data suggest that combined hormonal contraceptive may further increase the risk of ischemic stroke in those who have migraine, specifically migraine with aura. Thus, our current statements privilege safety and provide several suggestions to try to avoid possible risks. As the quality of available data is poor further research is needed on this topic to increase safe use of hormonal contraceptives in women with migraine.