Overall, the benefits of hormonal contraception far outweigh the risks.

Acne and New Regimens

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Treatment of Acne Using a 3-Milligram Drospirenone/20-Microgram Ethinyl Estradiol Oral Contraceptive Administered in a 24/4 Regimen: A Randomized Controlled Trial

Maloney JM, Dietze P Jr, Watson D, et al.
Obstet Gynecol. 2008;112:773-781.

Androgen overproduction is a contributory factor for acne in women. It leads to excess keratinization of hair follicles and increased sebum production that are part of the pathogenesis of the disorder. OCs can offer an alternative hormonal environment with the estradiol component inducing the synthesis of sex hormone–binding globulins, an effect that seems not to be offset by the new progestins.

Specifically, drospirenone is a new progesterone with antimineralocorticoid plus antiandrogenic properties similar to spironolactone, and has been shown to offer relief from emotional and physical symptoms in premenstrual dysphoric disorder. A preparation of 3 mg of drospirenone with 20 µg of ethinyl estradiol given on a 24 days on/4 days off cycle has proved effective in symptom relief and cycle regulation. Maloney and colleagues report on its efficacy in managing moderate acne vulgaris. The researchers conducted a placebo-controlled trial over 6 months and found significant improvements in skin condition in those taking the active pills compared with placebo.

One third of patients improved on the inert pills, but 50% improved on the drospirenone/estradiol combination with a 3-fold increased likelihood of their skin being assessed as "clear or nearly clear" on the hormonal regimen. Those on OCs had a slight decrease in body weight, whereas those on the placebo had a modest increase.

Obstetrics

Why Doesn't a Mother Reject Her Fetus?

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Immune Activation Early in Pregnancy: Trouble Down the Road?

Silver RM.
Am J Obstet Gynecol. 2008;199:327-328.

Complement Activation Fragment Bb in Early Pregnancy and Spontaneous Preterm Birth

Lynch AM, Gibbs RS, Murphy JR, et al.
Am J Obstet Gynecol. 2008;199:354.e1-354.e8.

It is a wonder of pregnancy that the fetus is not rejected by the mother's immune system. A fetus must have some favored status that allows maternal tolerance, but the exact modifications of her immune responses have so far defied definition. It is clear that when the tolerance process goes awry, a spectrum of disorders results, such as miscarriage, fetal demise, preeclampsia, and preterm labor. It is postulated that deficient tolerance in early pregnancy leads to adverse outcomes months later.

The activation of the immune response or its suppression is being unraveled by the exploration of various pathways, many of which involve mediators of inflammatory mechanisms. One that is yielding intriguing results is the complement activation mechanism. Silver indicates that complement activation has been implicated in a number of autoimmune processes including lupus, rheumatoid arthritis, asthma, and various renal disorders.

In pregnancy, complement activation seems to have a key role in fetal loss associated with antiphospholipid syndrome. Complement activation or inhibition may be crucial in the treatment of the syndrome or in unexplained recurrent pregnancy losses.

Research by Lynch and colleagues now suggests that complement activation (or failure of its suppression) in early gestation leads to a greater risk of preterm labor

downstream. Through a complex series of steps that mediate inflammatory events, enzymes trigger the body's normal protective functions and these have been pursued as infective or inflammatory causes of preterm labor. The latest work suggests it is not infection starting the process, but early abnormal complement activation. By measuring serum levels of one of the complement activation fragments (called Bb), the researchers were able to show an association between abnormally high levels and spontaneous preterm delivery prior to 34 weeks of gestation.

It is early days, but a marker of inflammatory action that could predict preterm labor would be an important first step in management protocols. Watch for Bb!

Miscellaneous

Snippets

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Abdominal Aortic Aneurysm Events in the Women's Health Initiative: Cohort Study

Lederle FA, Larson JC, Margolis KL, et al.

BMJ. 2008;337:a1724.

Men more frequently develop aortic aneurysms, but they are more deadly in women. Because they are less common in women, they have received less attention, but a study by Lederle and colleagues redresses the situation. Data from 162,000 postmenopausal women showed that increasing age and smoking are risk factors.

Intriguingly, the negative association of diabetes and aneurysms in men was also found in women in this research.

Effects of an Oral Ghrelin Mimetic on Body Composition and Clinical Outcomes in Healthy Older Adults: A Randomized Trial

Nass R, Pezzoli SS, Clancy Oliveri M, et al.

Ann Intern Med. 2008;149:601-611.

Effect of Combined Folic Acid, Vitamin B_6, and Vitamin B_{12} on Cancer Risk in Women

Zhang SM, Cook NR, Albert CM, et al.

JAMA. 2008;300:2012-2021.

Vitamins E and C in the Prevention of Cardiovascular Disease in Men

Sesso HD, Buring JE, Christen WG, et al.

JAMA. 2008;300:2123-2133.

Exogenous growth hormone increases lean body mass and reduces fat, but has too many side effects to ever be considered as an antiaging medication. MK-677 is a secretagogue that was hoped to have the same benefits without the downside, but it did not have the desired changes in bodily proportions or quality of life. In a study by Nass and colleagues, however, it did make volunteers hungry and they put on more weight than those allocated to placebo.

Folic acid and vitamins B_6 and B_{12} have crucial roles in DNA metabolism, especially its integrity and gene expression, making them important in cancer prevention. But giving supplements to otherwise healthy women does not reduce cancer risks according to the results of a large US trial of health professionals conducted by Zhang and colleagues; 2.5 mg folate plus 50 mg of vitamin B_6 plus 1 mg of vitamin B_{12} had the same effect as placebo on rates of breast, colon, or other cancers.

The ongoing US Physicians study recruited 14,000 doctors over 50 years of age; the latest audit reported by Sesso and colleagues shows that giving them vitamin C and E supplements made no difference to their risk of cardiovascular events. All the participants are men, but it is unlikely the effects will be any different for women. ■

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