

# Arterial Aging Signs Seen In Young PCOS Patients

BY BETSY BATES  
Los Angeles Bureau

SAN DIEGO — Young women with polycystic ovary syndrome have evidence of endothelial dysfunction and low-grade, chronic inflammatory markers characteristic of much older patients, researchers reported at the annual meeting of the Endocrine Society.

Evanthia Diamanti-Kandarakis, M.D., and associates at Laiko Hospital of the University of Athens compared endothelial function and inflammatory cytokines in 25 women with PCOS and 20 age-matched controls with similar body mass index (BMI) measurements and waist-hip ratios. The women were in their mid to late 20s and had BMIs of about 26-29 kg/m<sup>2</sup>.

Endothelial function was determined by flow-mediated dilatation of the brachial artery on ultrasound, plus endothelin-1 (ET-1) plasma levels. Numerous cytokines were measured in blood to assess arterial inflammation.

Subjects with PCOS had significantly lower percentages of flow-mediated dilatation than controls (3.47% vs. 9.26%). Nitrate-induced dilatation, measured to exclude smooth muscle cell injury, was not significantly differ-

ent in the two groups. Significantly higher levels of ET-1, intracellular adhesion molecules (ICAMs), vascular cell adhesion molecules (VCAMs), and C-reactive protein were found in PCOS subjects, compared with controls. E-selectin levels did not differ between groups.

In PCOS "the lining of the arteries is affected and at the same time, the molecules are sticking to each other and to the vessel wall, leading to a compromised circulation as would

be seen in a woman much older" than these subjects, Dr. Diamanti-Kandarakis said at a press conference at the meeting.

As expected, testosterone levels were significantly elevated in women with PCOS.

Asked to advise clinicians on how to use the information, she pointed out that a multiple regression analysis determined that the best predictors of endothelial damage in PCOS subjects were elevated levels of testosterone and CRP. Young PCOS patients with high levels of both should be closely followed for cardiovascular consequences of the syndrome.

"We cannot assume that all women with PCOS have [endothelial dysfunction]. There are different subtypes of the disease," Dr. Diamanti-Kandarakis said. ■

**Young women with PCOS who have high levels of testosterone and CRP should be followed for any cardiovascular consequences.**

# Study Links Chlamydia, Abnormal Uterine Bleeding

BY SHARON WORCESTER  
Southeast Bureau

CHARLESTON, S.C. — *Chlamydia trachomatis* may play more of a role in abnormal uterine bleeding than previously recognized, Miklos Toth, M.D., reported at the annual meeting of the Infectious Diseases Society for Obstetrics and Gynecology.

Although many women with abnormal uterine bleeding have endometritis that is associated with silent pelvic inflammatory disease (PID), and *C. trachomatis* is the most important pathogen in the etiology of silent PID, the histologic features of chlamydia endometritis and the relationship between *C. trachomatis* and abnormal uterine bleeding have not been well described, said Dr. Toth of Lenox Hill Hospital, New York.

To better define these factors, he studied 92 archived endometrial biopsy specimens from premenopausal women with abnormal uterine bleeding and/or endometritis. Of these, 48% tested positive for *C. trachomatis* by species-specific monoclonal antibody against the major outer membrane protein (MOMP).

The specimens also were tested for histopathology associated with inflammation, and associations were

noted between *C. trachomatis* (defined as a positive MOMP-specific stain) and higher counts of plasma cells, macrophages, and lymphocytic foci, Dr. Toth said.

The strongest predictor of *C. trachomatis*, as indicated by the receiver operating characteristic curve (area under the curve = 0.88), was macrophage count. The mean number of macrophages in the *C. trachomatis*-positive specimens was 619, which was significantly greater than the macrophage count of 11 in the negative specimens.

The currently accepted histologic definition of silent PID (five or fewer polymorphonuclear leukocytes and one or fewer plasma cells per 40×) was not indicative of *C. trachomatis* in this study.

These findings suggest that *C. trachomatis* is underestimated in women with abnormal uterine bleeding and that currently used histologic criteria for silent PID will miss many cases of *C. trachomatis* infection. Women with missed infection who become pregnant may have increased risk for miscarriage, Dr. Toth said.

The findings also suggest that macrophage counts are a very promising tool for detecting *C. trachomatis* in the endometrium, he noted. ■

# Cortisol Dips in PCOS Patients Treated for Sleep Apnea: Study

BY BETSY BATES  
Los Angeles Bureau

SAN DIEGO — A small study has found that treating obstructive sleep apnea in patients with polycystic ovary syndrome lowered their cortisol levels at night as well as during the daytime.

Obstructive sleep apnea symptoms also greatly improved in five nondiabetic PCOS patients who received continuous positive airway pressure (CPAP) for 8 weeks as part of a study presented at the annual meeting of the Endocrine Society.

Previous research has determined that the risk of obstructive sleep apnea is 30-fold to 40-fold higher in women with PCOS compared with weight-matched controls. It has been theorized that there may be a link between obstructive sleep apnea and the metabolic and hormonal abnormalities associated with the disease.

"These findings strongly suggest that obstructive sleep apnea is likely to contribute to elevated cortisol levels in women with PCOS and could play a role in the risk for adverse metabolic alterations in this patient population," concluded researchers Eve Van Cauter, Ph.D., and Esra Tasali, M.D., of the department of medicine at the University of Chicago, who presented a poster at the meeting.

Subjects in the study were in their early to mid-30s and had a mean body mass index (kg/m<sup>2</sup>) of 51. Three of the five had impaired glucose tolerance.

CPAP treatments were administered for 8 weeks at the patients' homes, with compliance confirmed by built-in monitors.

Following therapy, mean 24-hour cortisol levels fell from 10.2 mcg/dL to 7.7 mcg/dL. Daytime cortisol levels fell from 10.3 mcg/dL to 7.9 mcg/dL, whereas nighttime cortisol dropped from 10.1 mcg/dL to 7.5 mcg/dL. These decreases were all statistically significant.

The cortisol nadir declined by 40%. "Interestingly, this decrease in the nadir was associated with the severity of patients' sleep apnea," Dr. Tasali, a pulmonologist and sleep researcher at the university, said in an interview.

CPAP may emerge as a treatment modality in some patients, not only to alleviate symptoms of obstructive sleep apnea, but also to independently target hormonally and metabolically driven symptoms.

A larger study is planned and will involve more patients with PCOS and obstructive sleep apnea, as well as obese women with sleep apnea who do not have PCOS, said Dr. Van Cauter, a professor of medicine at the university. ■

# Ertapenem Found Effective For Intraabdominal Infections

BY HEIDI SPLETE  
Senior Writer

MIAMI — A daily dose of intravenous ertapenem for intraabdominal infections proved as effective as piperacillin/tazobactam administered every 6 hours, Nicholas Namias, M.D., said in a poster presented at the joint annual meeting of the Surgical Infection Society and the Surgical Infection Society-Europe.

The randomized, double-blind study included 494 men and women aged at least 18 years who had systemic inflammatory responses and physical findings suggestive of intraabdominal infections resulting from surgical interventions such as open laparotomy, laparoscopic surgery, and percutaneous drainage.

A total of 247 received 1 gram of intravenous ertapenem per day and 247 received 3.375 g of intravenous piperacillin/tazobactam every 6 hours for 4-14 days, wrote Dr. Namias, of the University of Miami, and his colleagues.

Response rates were similar. A total of 122 ertapenem patients and 107 piperacillin/tazobactam patients were mi-

crobiologically evaluable at 2 weeks, and favorable clinical responses were shown in 82.1% and 81.7%, respectively. A total of 112 ertapenem patients and 94 piperacillin/tazobactam patients were microbiologically evaluable for a second follow up at 4-6 weeks, and they had response rates of 78.9% and 79.3%, respectively.

The top three organisms were *Streptococcus* species, *Escherichia coli*, and *Peptostreptococcus micros*. Response rates of ertapenem compared with piperacillin/tazobactam against each of these species, respectively, were 86.4% vs. 76.0%, 85.3% vs. 85.4%, and 85.0% vs. 73.3%.

A total of 69% of patients in each group reported at least one adverse experience, and 1.6% of each group dis-

continued the medication due to serious adverse experiences. During the course of the therapy and up to 14 days' follow-up, 6 patients in the ertapenem group died, compared with 10 patients in the piperacillin/tazobactam group. An additional two ertapenem patients and three piperacillin/tazobactam patients died due to clinical adverse events after the 14-day follow up. ■

**Intravenous ertapenem was as effective as piperacillin/tazobactam administered every 6 hours in a randomized, double-blind study.**