Pregnancy-Induced Hypertension Tied to Metabolic Syndrome

BY SHARON WORCESTER
Tallahassee Bureau

ORLANDO, Fla. — Pregnancy-induced hypertension and polycystic ovarian syndrome may be risk markers for later development of metabolic syndrome, Stephen Franks, M.D., said at an international conference on women, heart disease, and stroke.

The findings are important because they suggest that identification of those at risk for metabolic syndrome, and intervention to reduce that risk, can begin as early as adolescence, when polycystic ovarian syndrome (PCOS) typically emerges, said Dr. Franks of the Imperial College London.

The prevalence of metabolic syndrome in women is “staggeringly high,” and the hazard ratio for cardiovascular mortality in women with metabolic syndrome is near-ly 2.8. For diabetes, the hazard ratio is 6.1.

“So there is an enormously increased risk of heart disease and diabetes; it would be very useful if we could try to predict [metabolic syndrome] and identify those factors that alert us to the possibility of a high risk for metabolic syndrome,” Dr. Franks said.

Several studies show that pregnancy-induced hypertension—including gestational hypertension and preeclampsia—is associated with increased prevalence of markers of metabolic syndrome as well as a higher lifetime risk of heart disease. In one study of nearly 2,700 women with prior gestational hypertension or preeclampsia and an average age of 31 years, the conditions were shown to be associated with increased systolic and diastolic blood pressure, as well as higher body mass index, waist-to-hip ratio, and other metabolic syndrome markers, compared with a reference population.

PCOS, which affects more than 5% of women of reproductive age, also appears to be associated with risk for metabolic syndrome. Since it presents so early, it may be the first identifiable sign predicting metabolic syndrome, Dr. Franks said.

The definitions of metabolic syndrome vary from study to study, so it is difficult to say just how common metabolic syndrome is in those with PCOS, but one recent article suggests the prevalence is about 90% among obese women with PCOS, he said.

Obesity, which already is established as a marker for metabolic syndrome, appears to act as an amplifier of other etiologic factors, including pregnancy-induced hypertension and PCOS.

Furthermore, at least one study showed that PCOS patients who are obese in their teen years and who remain obese in adulthood have an even greater risk of developing metabolic syndrome.

A fundamental abnormality seen in obese PCOS patients is increased insulin resistance and higher insulin levels, compared with age- and weight-matched controls. In the normal population, as body mass index increases insulin levels also increase, but in PCOS this curve is steeper. In one study of more than 300 women with an average age of 37 years and a history of PCOS, the risk of diabetes was increased nearly threefold compared with controls.

Estimates of PCOS prevalence in young women range from 10% to 40% and the relationship between PCOS and obesity suggests the prevalence is set to increase.

“Adults are getting fatter, children are getting fatter, and obese children become obese adults,” Dr. Franks said.

But there is hope, because even modest reductions in weight with caloric restriction and exercise is proven to modify a woman’s risk profile, he said.

Young women with PCOS or pregnancy-induced hypertension—particularly those who are obese—should be identified as being at risk for metabolic syndrome and interventions should be initiated.

Preeclampsia Presentation Varies Depending on Race and Ethnicity

RENO, Nev. — A retrospective study examining 473 pregnancies complicated by preeclampsia has uncovered a number of significant racial and ethnic differences in the expression of the disorder.

African American women with preeclampsia tend to have more severe hypertension and more often require antihypertensive medication than the population at large, according to a poster presentation by Amy Goodwin, M.D., of Case Western Reserve University, Cleveland, and associates at the annual meeting of the Society for Maternal-Fetal Medicine.

While 37% of the full sample had severe hypertension at diagnosis, 45% of African American women had severe hypertension. African American women were also significantly more likely to require antihypertensive medication intrapartum (12% vs. 8.8%), postpartum (18% vs. 13%), and at discharge (35% vs. 27%).

Non-Hispanic Caucasian women more frequently manifest severe hypertension with hemolysis, elevated liver enzymes, and low platelet count (HELLp) syndrome. While 24% of the full sample exhibited HELLP, the rate among Caucasian women was 30%.

Hispanic women tend to present with preeclampsia later in gestation and with less severe disease than the rest of the population. They presented at a mean of 36 weeks of gestation vs. 34.4 weeks for the rest of the population, and a smaller proportion of them exhibited severe hypertension at diagnosis (22% vs. 37%).

The study found no significant differences by race or ethnicity in a number of other factors including proteinuria, eclampsia, intrauterine fetal distress, intrauterine growth retardation, abortion, and recurrent preeclampsia.