Preeclampsia Risk Increases With Prenatal Weight Gain in Study of Urban Women

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VIENNA — Obesity and excess prenatal weight gain increase the risk of preeclampsia among women from a diverse urban population, Terry J. Rosenberg, Ph.D., reported.

The findings suggest that the focus should shift from the treatment of preeclampsia to its prevention, said Dr. Rosenberg, who is the deputy director of research and evaluation, Medical Health and Research Association of New York City Inc. The association is an independent, nonprofit organization that works with the New York City Department of Health and Mental Hygiene in studying medically underserved populations.

Since many low-income women do not have regular health care providers, "There's a window of opportunity during pregnancy for ob.gyns. to provide the kind of advice that these women aren't likely to get from another physician. … Providing encouragement for a healthy diet and exercise during the perinatal period will carry over to better health throughout the lifetime of these women," she said during the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

Among 330,216 singleton births during 1999-2001 from New York City's birth certificate database, 6% (20,702) of the mothers had a prepregnancy weight of more than 199 pounds. This weight was used as the definition of obesity, since height data were not included in the database.

Excess prenatal weight gain, which was defined as more than 40 pounds, was recorded for 18% (60,695) of the women in the study.

Preeclampsia, which was diagnosed by the physician, was recorded for 2% of the study population (7,011).

One-third of the mothers (33%) were Hispanic, 29% were white, 26% were black, and 12% were Asian.

One-third were foreign-born.

Obesity rates were highest among the black women (12.7%), followed by the Hispanic women (5.2%), and the whites (4.8%), with Asians far lower (0.8%), she said.

Excess weight gain was recorded for 21% of the Hispanic women, 20% of the black women, 17% of the whites, and 11% of the Asians.

Preeclampsia was 1.5 times as common among those who gained more than 40 pounds, compared with those who gained less weight.

Preeclampsia was diagnosed in 2.9% of the black women and 2.6% of the Hispanic women, at least double the rates among white (1.3%) and Asian (1.2%) women, Dr. Rosenberg reported during her presentation at the meeting.

After adjustment for significant predictors of preeclampsia—which included age older than 35, black or Hispanic ethnicity, low socioeconomic status, and chronic diabetes and/or hypertension—the risk for preeclampsia was 1.8 times greater for women who weighed 200-299 pounds, compared with those women weighing 100-149 pounds, the investigators found.

The risk was elevated 2.6-fold among women weighing at least 300 pounds.

Moreover, preeclampsia was 1.5 times as common among the women who gained more than 40 pounds during pregnancy, compared with those who gained less weight.

Those elevated risks did not differ significantly after 4,036 women with chronic diabetes and/or hypertension were removed from the analysis, Dr. Rosenberg noted. ■

Labetalol Holds Advantages Over $MgSO_4$ In Preventing Eclampsia, Early Data Suggest

VIENNA — Labetalol may be a viable alternative to magnesium sulfate for the prevention of eclampsia, Jennifer Warren, M.D., said at the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

Previous data from Dr. Warren's colleagues at the University of Utah, Salt Lake City, suggest that labetalol reduces cerebral perfusion pressure while maintaining cerebral blood flow.

It is potentially an ideal agent for preventing eclampsia, which is believed to be the result of cerebral overperfusion (Hypertens. Pregnancy 2002;21:185-97).

The labetalol subjects were significantly less likely to require additional blood pressure control medication and to experience flushing.

Labetalol also offers several advantages over $MgSO_4$, including its lack of life-threatening side effects ($MgSO_4$ is a respiratory and cardiac depressant). Labetalol has a rapid onset of action with sustained antihypertensive effects and can be administered orally with minimal need for monitoring; $MgSO_4$ is given parenterally. In addition, labetalol is less expensive than $MgSO_4$, according to Dr. Warren.

She presented preliminary data for the first 202 participants in the Labetalol Versus Magnesium Sulfate for the Prevention of Eclampsia Trial (LAMPET), an international, multicenter, nonblinded, randomized controlled trial in which women with preeclampsia receive either labetalol (200 mg orally every 6 hours, with additional intravenous doses every 20 minutes based on blood pressure measurements) or magnesium (6-g IV bolus followed by 2-g IV continuous infusion, with intravenous hydralazine if blood pressure remains uncontrolled after 20 minutes).

Institutions were permitted to substitute their own regimens for these. All medications were administered until 24 hours post partum.

The 115 women randomized to labetalol were similar to the 87 who received $MgSO_4$ with regard to demographics such as maternal age, gestational age, race, height, and weight.

Admission data, including blood pressure, lab values, history, and symptoms, also did not differ.

Seizures occurred in 1.7% of the labetalol group (two women) and 2.3% of the $MgSO_4$ group (two women), which was not a significant difference. All the seizures occurred at one institution where blood pressure control protocol violations were subsequently documented, Dr. Warren noted.

The labetalol subjects were significantly less likely to require additional blood pressure control medication (1.7% vs. 9.2%), and to experience flushing (0% vs. 12.6%). Rates of other side effects, including headache, diplopia, hypotension, nausea, vomiting, and respiratory depression, did not differ. Rates of abruption, postpartum hemorrhage, cardiac complications, and cesarean deliveries were also similar.

Intrapartum blood pressures did not differ between the two groups, but postpartum mean systolic and diastolic pressures were both significantly lower in the labetalol group, compared with the $MgSO_4$ group (133/77 mm Hg vs. 140/80 mm Hg). Overall mean intrapartum and postpartum heart rates were also lower in the labetalol subjects, Dr. Warren reported.

Neonatal Apgar scores at 1 and 5 minutes did not differ between the groups, and there were no differences in rates of newborn intubation, respiratory depression, hypotension, hypotonia, or dysrhythmia.

The LAMPET trial, which is being conducted at three centers in two countries, will ultimately include 4,000 women. Final results are expected in about 2 years, Dr. Warren told this newspaper. ■

Obesity Does Not Spur Progression of Hypertension

VIENNA — Obesity does not appear to increase the risk for progression to preeclampsia among women with mild gestational hypertension remote from term, John R. Barton, M.D., reported.

Among women with mild gestational hypertension, however, higher body mass index (BMI) is associated with higher birth weights and increased rates of cesarean delivery, Dr. Barton explained during a poster presentation at the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

A total of 365 women with mild gestational hypertension and normal BMI (20-25 kg/m^2) were matched one-to-one for gestational age at diagnosis, race, and parity to 365 women who also had mild gestational hypertension but whose BMIs were 30 kg/m^2 or greater.

All of the women had singleton pregnancies, according to Dr. Barton of Central Baptist Hospital, Lexington, Ky.

Cesarean deliveries were significantly more common among the obese women (57% vs. 40%).

However, the percentages who progressed to preeclampsia—41% in the obese group vs. 38% in the normal-weight group—were not significantly different between groups, nor were the percentages who developed severe hypertension, HELLP (hemolysis, elevated liver enzymes, and low platelet count) syndrome, abruptio placentae, or eclampsia, Dr. Barton reported at the meeting.

The majority of both obese and nonobese women delivered at 37 weeks or later, whereas the proportions delivered at sooner than 34 weeks—6.3% in the obese group vs. 9.9% of the normal weight women—were not significantly different.

Babies born to obese women had a significantly greater mean birth weight (3,033 g vs. 2,833 g), and a significantly smaller percentage of their babies weighed less than 2,500 g (24% vs. 32%).

Perinatal deaths did not differ between the obese and nonobese groups, according to the study.

This study differs from others that have found an association between obesity and the development of preeclampsia in that most of those data involved women who were originally normotensive, Dr. Barton noted.

These findings support previous recommendations for frequent antepartum monitoring of all women with hypertensive pregnancies, including twice-weekly fetal heart rate testing accompanied by weekly amniotic fluid volume estimation beginning at the time of diagnosis.

In addition, daily kick counts should be considered at the beginning of the third trimester Dr. Barton recommended.

Abnormal nonstress tests or amniotic fluid elevations should be followed by a comprehensive maternal and fetal evaluation, he advised. ■

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