BMI, Gestational Weight Gain Most Predictive of Macrosomia

BY DIANA MAHONEY
New England Bureau

SAN FRANCISCO— Prepregnancy body mass index and gestational weight gain are more predictive of fetal macrosomia than homeostasis model assessment and glucose load, a study has shown.

Because both of these are modifiable risk factors, "they should be emphasized in order to minimize the risk of macrosomia and associated adverse outcomes," reported Dr. Chloe A. Zera in a poster presentation at the annual meeting of the Society for Maternal-Fetal Medicine.

In a prospective study designed to investigate whether either early or late gestational insulin resistance predicts infant birth weight and risk of macrosomia-related cesarean delivery, Dr. Zera of Boston's Brigham and Women's Hospital and colleagues collected data from 439 pregnant women enrolled in the Massachusetts General Hospital Obstetrical Maternal Study.

The information included homeostasis model assessment (HOMA) data, glucose load test (GLT) results, and clinical information including prepregnant body mass index (BMI), gestational weight gain, maternal age, delivery information, and infant birth weight.

All of the women had fasting blood samples drawn at 16-18 weeks gestation and all had GLT performed as part of routine care. Prepregnancy BMI was based on weight at first prenatal visit.

The investigators used multivariate analysis to predict infant birth weight as a function of the baseline characteristics of the study population and logistic regression to predict the odds of macrosomia and cesarean section, said Dr. Zera.

An analysis of the study population showed that 37% of the women in the study were overweight or obese prior to pregnancy, 17% of the infants in the cohort were macrosomic (more than 4,000 g), 27% of the deliveries were by cesarean section, and 30% of the cesarean deliveries were for macrosomia or failure to progress, Dr. Zera reported.

In the multivariate linear regression analysis, total gestational weight gain, prepregnancy BMI, and maternal age were significant predictors of birth weight, Dr. Zera said, noting that neither HOMA nor GLT were predictive. Both total weight gain and maternal BMI were significantly associated with risk of macrosomia in the logistical regression model, and maternal BMI alone was significantly associated with risk of cesarean section for macrosomia, she said.

Whereas glucose intolerance during pregnancy is thought to be a risk factor for macrosomia, the findings of this study suggest that "both maternal BMI and gestational weight gain may play more of a role than glucose intolerance in determining infant birth weight and subsequent risk of macrosomia and macrosomia-related cesarean delivery," according to Dr. Zera.

Given these results, it is conceivable that reducing prepregnancy BMI and decreasing gestational weight gain may reduce the risk of macrosomia and subsequent cesarean delivery, Dr. Zera noted. As such, both should be emphasized clinically in women at risk, she said. ■

Prognosis Poor in Persistent Peripartum Cardiomyopathy

BY MICHELE G. SULLIVAN
Mid-Atlantic Bureau

RIVIERA MAYA, MEXICO — Women whose ejection fraction remains less than 50% after a diagnosis of peripartum cardiomyopathy face a significantly increased risk of cardiac deterioration and death with any subsequent pregnancies, Dr. Bernard Gonik said at a conference on obstetrics, gynecology, perinatal medicine, neonatology, and the law.

'The prognosis for these women is really bad, with up to 85% dying by 5 years. Almost half of these deaths will occur within the first 6 months post partum.'

"We know that the patient whose echocardiogram has not normalized within 6 months has a very poor prognosis in terms of future pregnancy," said Dr. Gonik, the Fann Srere Endowed Chair in Perinatal Medicine at Wayne State University, Detroit.

"Of these women, 50% will have symptoms during a subsequent pregnancy, 33% will experience deterioration of cardiac function, 42% will have persistent cardiomyopathy, and 25% will die."

These numbers are based on a 2001 review published in the New England Journal of Medicine. That article discussed outcomes in 92 women with the disorder who had a subsequent pregnancy. The article also identified the very poor prognosis for the 20% of women whose cardiac function does not normalize within a period of 6 months postpartum (N. Engl. J. Med. 2001; 344:1567-71).

"The prognosis for these women is really bad, with up to 85% dying by 5 years," Dr. Gonik said at the meeting, sponsored by Boston University. "Almost half of these deaths will occur within the first 6 months post partum."

Conversely, among women with ejection fractions of more than 50%, only 6% had symptoms with a subsequent pregnancy, 17% deteriorated, 9% had persistent cardiomyopathy, and none died.

Peripartum cardiomyopathy is defined as the development of heart failure during the last month of pregnancy or within 3 months of delivery, in the absence of preexisting heart disease and with no other known cause, Dr. Gonik said.

The condition occurs in about 1 in 5,000 pregnancies. The etiology is unknown.

Risk factors include multiparity, advanced maternal age, twins, preeclampsia, hypertension, and black race. ■

Lupus Linked to Higher Risk of Problems in Pregnancy

BY NANCY WALSH
New York Bureau

WASHINGTON — Women with lupus are at increased risk for thrombosis, infection, hematologic disorders, and death during pregnancy, according to data from the large National Inpatient Survey, Dr. Megan E.B. Clowse reported at the annual meeting of the American College of Rheumatology.

The National Inpatient Survey (NIS), which is administered by the Healthcare Cost and Utilization Project of the Agency for Healthcare Research and Quality, contains data from 1,000 hospitals nationwide.

Out of more than 18.3 million pregnancy-related hospital admissions between 2000 and 2002 in the United States, 17,262 (0.01%) involved women with systemic lupus erythematosus (SLE), according to Dr. Clowse, a rheumatologist at Duke University, Durham, N.C.

Analysis of data from the NIS revealed that women with SLE who become pregnant were significantly more likely also to have other underlying medical conditions that are associated with adverse outcomes, including renal failure (odds ratio 35.8), antiphospholipid syndrome (odds ratio 31.9), hypertension (odds ratio 6.4), and diabetes (odds ratio 1.6), according to Dr. Clowse.

They were also more likely to experience complications during pregnancy (see table).

More than one-third had cesarean births, and preeclampsia was three times higher among the SLE patients than among non-SLE women, at 23%. Eclampsia developed in only a small percentage of lupus patients (0.5%), but this was still four times more common than in nonaffected women.

Moreover, women in the survey with SLE had demographic factors that may predispose them to more medical problems during pregnancy. They were older, with a mean age of 30 years, compared with 27.5 years in the general pregnancy population, and more were African American (20%) than in the general pregnancy population (14%).

Complications in Pregnant Women With SLE

Pregnancy Complications	Number of Cases	Odds Ratio
Thrombotic		
Stroke	25	2.2
Pulmonary embolism	56	3.2
Deep vein thrombosis	138	5.8
Infectious sepsis	66	3.5
Pneumonia	239	4.3
Hematologic		
Transfusion	465	3.6
Anemia at delivery	1,702	1.9
Thrombocytopenia	587	8.3

Note: Total number of pregnancies was 17,262.
Source: Dr. Clowse

Elsevier Global Medical News

The observation that pregnancy poses risks to women with SLE is not surprising, Dr. Clowse wrote in a poster session. After all, lupus itself increases the risk of death in women of reproductive age by up to 12 times, regardless of pregnancy, and also heightens the risk of infection, thrombosis, and hematologic complications.

But the absolute risk of death during pregnancy remains low, at 0.3%, while the annual mortality among SLE patients ranges from 0.8% to 3%.

"The risk of death during pregnancy may actually be lower than during nonpregnancy for SLE patients, because the sickest patients do not get pregnant," Dr. Clowse observed.

Nonetheless, pregnancy does carry risk for patients with lupus, and they should be followed closely by a rheumatologist and an obstetrician who specializes in high-risk pregnancies.

Also, because of the risk of thrombosis, consideration should be given for all pregnant SLE patients to have prophylaxis with low-dose aspirin, she noted.

Dr. Clowse disclosed that she had no conflicts of interest. ■