

# Bariatric Surgery Cuts Eclampsia, Other Disorders

BY JENNIE SMITH

Women who have had bariatric surgery are far less likely to experience serious hypertensive disorders during pregnancy, including preeclampsia and eclampsia, than women who have yet to undergo the surgery, study results showed.

Investigators found a 75% reduction in the odds of being diagnosed with a hypertensive disorder in pregnancy in those who had undergone the surgery, compared with their counterparts.

For their study, Dr. Wendy L. Bennett and her colleagues at the Johns Hopkins University, Baltimore, evaluated claims data from seven private insurance plans to find 585 U.S. women aged 16-45 who had undergone bariatric surgery for weight

loss and had at least one prior pregnancy and delivery (BMJ 2010 April 13;340:c1662 [doi: 10.1136/bmj.c1662]).

A total of 269 of the women gave birth before gastric bypass surgery or another weight-loss surgery, and 316 were delivered afterward. For the first group, the mean time from delivery to surgery was 17.9 months, and for the second, the mean time from surgery to delivery was 23.6 months. Gastric bypass surgery accounted for 81.5% of procedures overall, with other surgeries, such as adjustable gastric banding, making

up the rest. The mean age of the women was 31.9 years at delivery and 31.5 years at surgery.

In the group who gave birth before having surgery, 31.2% of the women were diagnosed with a hypertensive disorder—from chronic and gestational hypertension to preeclampsia and eclampsia alone or superimposed on hypertension—between the start of pregnancy and 2 weeks after birth, while only 9.8% of the postsurgery group were.

## VITALS

**Major Finding:** In the group who gave birth prior to surgery, 31.2% of the women were diagnosed with a hypertensive disorder—from chronic and gestational hypertension to preeclampsia and eclampsia alone or superimposed on hypertension—between the start of pregnancy and 2 weeks after birth, while only 9.8% of the postsurgery group were.

**Data Source:** A study of claims data from seven private insurance plans to find 585 U.S. women who were aged 16-45, had undergone bariatric surgery for weight loss, and had at least one prior pregnancy and delivery.

**Disclosures:** None was reported.

hypertension—between the start of pregnancy and 2 weeks after birth, while only 9.8% of the postsurgery group were, even after adjustment for such factors as age at delivery, multiple pregnancy, the type of surgery, and preexisting diabetes.

Preeclampsia or eclampsia was diagnosed in 14.5% of women in the presurgery group and 2.5% in the postsurgery group. “We went 2 weeks post partum, because we wanted to make sure we got all the diagnoses,” Dr. Bennett said in an interview.

“Women can get postpartum preeclampsia.”

The Hopkins findings confirm those from an earlier Israeli study of similar design (Int. J. Gynecol. Obstet. 2008;103:246-51), which found the rate of a composite of hypertensive disorders during pregnancy to be more than halved after bariatric surgery.

The Hopkins team saw an even more dramatic reduction—about 75%—in the odds of all hypertensive disorders in pregnancy, and was able to isolate all severities of hypertensive disorders by analyzing outpatient

and inpatient codes for each. Further, Dr. Bennett and her colleagues wrote that they were “able to describe outcomes of chronic hypertension complicating a pregnancy and preeclampsia superimposed on chronic hypertension among women who have had bariatric surgery.” Chronic hypertension in pregnancy and preeclampsia, the authors noted, can increase the long-term risk of chronic disease in the mother, including cardiovascular and renal disease.

Dr. Bennett noted that her team reviewed relatively new and geographically diverse data (the claims were dated from 2002 to 2006 and were from more than one region of the United States), compared with other recent studies on bariatric surgery and pregnancy. This afforded the authors an up-to-date picture reflecting outcomes from surgeries currently performed, she said.

The team’s data set lacked height and weight information for the subjects before and after surgeries, though all had been diagnosed as obese (having a body mass index of 35 kg/m<sup>2</sup> or higher) before being scheduled for surgery. However, Dr. Bennett said, “we certainly believe it’s the weight loss leading to reduced hypertension risk.”

The authors noted a further limitation to their study, which was the possibility of selection bias and confounding by indication. For example, they wrote, “an obese woman with gestational hypertension might have been more likely to subsequently undergo bariatric surgery if she developed chronic hypertension after her pregnancy or had other comorbidities associated with obesity making her eligible for bariatric surgery. If this occurred, the number of diagnoses of hypertensive disorder in pregnancy in the women who delivered before surgery could be increased and bias our results.” ■

## Stress in Pregnancy May Raise Child’s Risk for Asthma

BY CHRISTINE KILGORE

Prenatal stress is associated with altered patterns of cord blood cytokine production that may raise a child’s asthma risk later in life, according to findings of one study.

“Prenatal stress appears to affect immune responses to both innate and adaptive stimuli at the time of birth—effects that may result in enhanced susceptibility to asthma or other atopic disorders,” said Dr. Rosalind J. Wright of Harvard Medical School in Boston and her associates (Am. J. Respir. Crit. Care Med. 2010 March 1 [doi:10.1164/rccm.200904-0637OC]).

The findings on seemingly stress-induced perinatal immune modulation may offer some new insight into the disproportionately high prevalence of asthma among ethnic minorities and disadvantaged urban communities.

In a prospective birth cohort study of urban, largely minority women, the investigators collected cord blood at birth and examined cord blood mononuclear cell (CBMC) cytokine responses to various innate and adaptive stimuli. Cytokine responses to both types of stimuli were significantly different in babies born to mothers with high levels of reported cumulative stress, compared with babies born to lower-stressed mothers.

In each case, the infants were at high risk for atopic diseases based on family history; either the mother or father had a history of asthma or allergy. Higher prenatal stress was

related to increased production of interleukin-8 (IL-8) and tumor necrosis factor- $\alpha$ , for example, following microbial (CpG, PIC) stimuli.

For adaptive response, there was evidence that higher stress is tied to lower levels of interferon-gamma production in response to stimulation with PHA (a nonspecific mitogen), which has been linked to an increased risk for later atopic disease. Higher stress was also linked with an increased IL-13 response to dust mite antigen, which has been associated with allergic sensitization in older children.

The investigators studied 560 newborns and their mothers who live in Baltimore, Boston, New York, and St. Louis, and who were participating in the Urban Environment and Childhood Asthma Study. The mothers were primarily minorities (71% black and 19% Hispanic); 69% reported an annual income of less than \$15,000.

Families answered detailed questions about various stressors in their lives, including financial hardship, community violence, and neighborhood and housing conditions.

The cohort will continue to be followed, enabling further assessment of the effects of prenatal and postnatal stress on infant immune development, and clinical outcomes, as the infants grow. ■

**Disclosures:** The study received funding from the National Institutes of Health. Dr. Wright also received funding from an NIH grant.

## Info About EB in Pregnancy Needed, Survey Finds

BY SHARON WORCESTER

MIAMI — Obstetricians may be lacking adequate information on the proper management of pregnancies affected by epidermolysis bullosa, findings from a survey suggested.

Of 195 Australian obstetricians who responded to the survey, 111 (57%) said information on epidermolysis bullosa (EB) is needed in prenatal clinics, Dr. Lizbeth Intong reported at the annual meeting of the American Academy of Dermatology.

Of the 195 (7%) respondents, 14 had encountered a pregnancy affected by EB; only 6 (43%) of the 14 said they conducted a literature search for information on the disease to help in their patient management, and only 4 (29%) comanaged their EB patients with a dermatologist, said Dr. Intong, a dermatologist at St. George Hospital in Sydney.

Mothers who had given birth to babies with EB, and mothers with EB who had given birth were also surveyed as part of the study. A total of 58 mothers who had babies with EB responded, and they had 130 babies, including 67 (52%) born with EB. Most babies were born by normal vaginal delivery, with a 5:1 ratio of normal vaginal deliveries to

cesarean sections; the more severe the EB type, the more blistering was seen at birth.

Forty-one mothers with EB also responded to the survey. These mothers gave birth to 104 babies, including 50 (48%) born with EB, mostly by normal vaginal delivery. In this group there was a 4:1 ratio of normal vaginal deliveries to C-sections. Two of the mothers with EB reported that their condition worsened during pregnancy, and two said it improved; EB-related problems that were reported included blistering at the site of the adhesive tape used during an epidural and nipple blistering during breastfeeding, which led to a switch from breastfeeding to bottle feeding.

Based on the survey results, Dr. Intong said normal vaginal delivery (no forceps or vacuum assistance) is generally safe, that C-section should be considered in severe cases to reduce birth trauma, that nonadhesive tapes and dressings should be used on mothers with EB, and that mothers with EB should get counseling about proper care during breastfeeding, such as the use of nipple shields to help prevent blistering. ■

**Disclosures:** None was reported.