Pregnancy after bariatric surgery: risks and benefits

TO THE EDITORS: In the recent decade, bariatric surgery (BS) has become the mainstay of treatment for morbid obesity, because of its demonstrated efficacy in achieving significant weight loss and in improving obesity-related comorbidities. Up to 80% of patients who undergo BS are women of childbearing age. Because of this situation, coupled with the dramatic increase in the use of BS in the management of obesity, obstetricians are likely to encounter women who have undergone BS in their routine practice.

We read the publication by Kwong et al[1] with great interest. They performed a systematic literature review that evaluated maternal and perinatal outcomes after BS. The authors concluded that BS is associated with reduced rates of gestational diabetes mellitus, hypertensive disorders, excessive fetal growth, postpartum hemorrhage, and cesarean delivery and with an increased rate of small-for-gestational-age infants and preterm delivery. Despite the meticulous data gathering in their study, several important issues were not acknowledged.

Studies that have evaluate pregnancy outcomes after BS almost exclusively have included patients who underwent either gastric bypass (ie, malabsorptive procedure) or gastric banding (ie, a restrictive procedure) with limited information regarding outcomes after sleeve gastrectomy, which is a restrictive procedure that has become the most frequently used bariatric procedure. We recently have published a case-control study that included 119 patients after sleeve gastrectomy and 119 control subjects who were matched for preoperative body mass index, age, parity, delivery history, and delivery year.[2] We have shown a 3-fold increased risk for small-for-gestational-age infants in the post—sleeve gastrectomy group. This finding challenges the presumption that the observed risk of impaired fetal growth is due to malabsorption[1] and suggests that the deleterious effect on fetal growth may involve factors other than malabsorption.[3]

The optimal timing of pregnancy after BS, in regard to pregnancy outcomes, is still not well-established. The most recent practice guidelines cosponsored by the American Society of Metabolic and Bariatric Surgery, the Obesity Society, and the American Association of Clinical Endocrinology suggest delaying pregnancy for 12—18 months after surgery; the American College of Obstetricians and Gynecologists recommends a wait of 12—24 months to ensure that pregnancy does not occur during the rapid catabolic weight loss period, which theoretically may lead to fetal malnutrition and impaired growth.[4] Because data regarding time to conception were not included in the aforementioned systematic review, we believe it represents a major limitation that should be acknowledged. ■

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REPLY

Thank you for your thoughtful letter to the editor regarding our meta-analysis on pregnancy outcomes in women who had undergone bariatric surgery.[1]

We agree that there are few studies that have looked specifically at pregnancy outcomes of patients who undergo vertical sleeve gastrectomy; therefore, your data on pregnancy outcomes in these patients are important. In your study that observed women who underwent vertical sleeve gastrectomy, you found an increase in small for gestational age (SGA) infants and, because this is a restrictive procedure, suggest that the growth restriction may be due to other causes other than malabsorption.[2] We acknowledge that this is a possibility. Another possibility, however, is that the relative increase in SGA infants found in your study was a result of the choice of control group. The women in the control group were matched to the surgery patients by preoperative body mass index (average, 41 kg/m^2) and thus were much heavier than the surgery group before pregnancy, in which the average body mass index was 28.9 kg/m^2. The less obese surgery group had an inherently higher risk of SGA simply because of their weight, as evidenced by Lamminpaa et al,[3] compared with their obese counterparts. Therefore, your finding may reflect the control group that was used rather than the procedure itself. Another study that looked at pregnancy outcomes after vertical sleeve gastrectomy also found an increase in SGA in women who had a body mass index of <30 kg/m^2 before pregnancy compared with women who had a body mass index of >30 kg/m^2 before pregnancy (22% vs 4%; *P*=.05), despite both groups undergoing the procedure.[4]

Regarding the timing of the pregnancy after the procedure, most studies did not include this kind of information; thus, this is a limitation of our study. The evidence, however, that pregnancy outcomes are affected by close timing of pregnancy after surgery is still controversial, and findings have been mixed, with a number of studies finding no difference in outcomes despite differences in timing of pregnancy.[5,6] It is possible that continuation of weight loss during pregnancy vs weight stability is a more important determinant of pregnancy outcome than a fixed time of pregnancy after surgery.[7] ■

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Apparently conflicting meta-analyses on prophylactic negative pressure wound therapy after cesarean delivery

TO THE EDITORS: We read with interest 2 apparently discordant meta-analyses on the prophylactic negative-pressure wound therapy after cesarean delivery recently published in the American Journal of Obstetrics and Gynecology (AJOG)[1] and in Obstetrics and Gynecology.[2] According to the latter, "currently available evidence does not support negative-pressure wound therapy use among obese women for cesarean wound complication prevention" and the former considered the results suggestive of "a reduction in surgical site infection and overall wound complications."

Several sources of discordance between systematic reviews/meta-analyses have been described, including differences in objectives and methods or errors in implementation.[3] Regarding these 2 articles, their objectives were essentially the same, but there were differences in the search strategies, in study designs, and in outcomes selected for analysis. In the AJOG, both randomized controlled trials (RCTs) and cohort studies were used to compute pooled relative risk (RR) estimates with 95% confidence intervals (95% CI), whereas in Obstetrics and Gynecology only data from RCTs were analyzed. In the AJOG, the conclusions were driven by results regarding surgical site infection (RCTs: RR, 0.55; 95% CI, 0.35−0.87; cohort: RR, 0.32; 95% CI, 0.18−0.57; all studies: RR, 0.45; 95% CI, 0.31−0.66), despite data regarding other outcomes were also presented, including composite wound complications (RCTs: RR, 0.82; 95% CI, 0.57−1.18; cohort: RR, 0.45; 95% CI, 0.26−0.78; all studies: RR, 0.68; 95% CI, 0.49−0.94); in Obstetrics and Gynecology, the authors focused mostly on the composite outcome of wound complications (RCTs: RR, 0.97; 95% CI, 0.63−1.49). A composite outcome of wound infections was analyzed as well (RCTs: RR, 0.79; 95% CI, 0.44−1.41).

Despite the fact that the search strategies were comprehensive and covered analogous periods in both reviews, there was no complete overlap between them. There was 1 additional RCT in the AJOG article;[4] had it been included in the Obstetrics and Gynecology meta-analysis, the conclusions would be essentially the same for composite wound complications (RR, 0.82; 95% CI, 0.57−1.18), and a negative significant association would have been obtained for surgical site infection. Also, 2 additional cohort studies were identified in the Obstetrics and Gynecology report but were not eligible for this meta-analysis.

Summing up, weaker associations were obtained from RCTs and for the composite outcome of wound complications; the differences in the conclusions of these reviews were determined mostly by the choice of distinct primary outcomes by their