

Does the type of bariatric surgery affect pregnancy outcome?

Objectives:

To establish prevalence of pregnancies following different types of bariatric surgery and assess impact of type of surgery on maternal and perinatal outcomes.

Design:

National prospective cohort study using UK Obstetric Surveillance System (UKOSS).

Methods:

Setting: NHS (all 200 consultant-led maternity units).

Participants: Pregnant women following gastric banding (n=127) and gastric bypass (n=134).

Data collection: November 2011-October 2012 (gastric banding), and April 2014-March 2016 (gastric bypass).

Analysis: Characteristics, maternal and perinatal outcomes compared between pregnancies after gastric banding and gastric bypass. Multivariable adjusted analyses and sensitivity analyses performed.

Results:

Prevalence of pregnancies following gastric banding (17.6 per 100,000 maternities (95%CI=14.7-21.0)) was higher than for gastric bypass (9.7 per 100,000 maternities (95%CI=7.6-12.4)).

Maternal:

Women pregnant following gastric band had a higher booking weight (mean difference=8.0kg, 95%CI=2.4-13.6, p=0.005) and higher gestational weight gain (mean difference=3.6kg, 95%CI=0.24-7.0, p=0.04) than those pregnant after gastric bypass.

Pregnancies following gastric bypass had a higher incidence of maternal anaemia (38.6%vs15.9%, RR=0.44, 95%CI=0.27-0.72, p=0.002) and gestational diabetes (16%vs7%, RR=0.35, 95%CI=0.13-0.92, p=0.03).

Women pregnant following gastric bypass had more surgical complications (11.4%vs0.9%, RR=0.08, 95%CI=0.01-0.70, p=0.03), including internal hernia, incisional hernia, intussusception, bowel obstruction, cholelithiasis and gastric dumping syndrome. One woman died from a hernia complication.

Perinatal:

Compared with gastric banding, mean birth weight (mean difference=260g, 95%CI=125-395, $p<0.001$) and incidence of large for gestational age infants were lower in pregnancies after gastric bypass (4.5%vs15.9%, RR=3.59, 95%CI=1.45-8.90, $p=0.005$).

Risk of preterm birth was higher in the gastric band compared with gastric bypass cohort (13.1%vs8.3%, RR=2.27, 95%CI=1.02-5.03, $p=0.04$). We found no difference in incidence of small for gestational age infants or other short-term perinatal morbidity and mortality.

Conclusions:

Women of childbearing age should be counselled regarding the risks and benefits of different types of bariatric surgery. Consideration should be given to advocating restrictive surgery for women planning children in the future.

Higher rates of surgical complications associated with significant morbidity and mortality in pregnancies following gastric bypass are concerning. Abdominal pain during pregnancy following gastric bypass should be investigated comprehensively including early surgical assessment.