

# Pregnancy following gastric bypass surgery (Roux-en-Y) for morbid obesity

**Authors:** R Anasiudu, K Gajjar, O Osoba, N Soliman

**Location:** Yeovil District Hospital, Somerset, UK

**Citation:** Anasiudu R, Gajjar K, Osoba O, Soliman N. Pregnancy following gastric bypass surgery (Roux-en-Y) for morbid obesity. JSCR 2011. 10:2

## ABSTRACT

Morbidly obese women are at increased risk of obstetric complications and poor neonatal outcomes. Gastric bypass surgery is being performed with increased frequency in reproductive-aged women to treat morbid obesity. Both maternal and fetal complications have been reported in women who underwent gastric bypass surgery.

Current recommendations advise delaying pregnancy for at least 1 year following bariatric surgery. This guideline is meant to discourage women from becoming pregnant during the rapid weight loss phase of the first post-surgical year. Pregnancy during this time could lead to a malnourished fetus, due to some protein malnutrition, possibly resulting in complications such as low birth weight or malformation. However, data validating this concern are lacking.

We report a case of 37-year-old woman who had laparoscopic bypass surgery, as treatment for morbid obesity, 6 months prior to her pregnancy with good outcome despite the short duration between gastric bypass surgery and pregnancy.

## INTRODUCTION

Morbidly obese women are at increased risk of obstetric complications and poor neonatal outcomes (1). Weight loss reduces these risks. The recourse to surgery to treat morbid obesity has shown a rising trend in some countries like America, where researchers have estimated that the annual number of deaths attributable to obesity is roughly 280,000<sup>1</sup>. We report here a pregnancy with good outcome despite the short duration between gastric bypass surgery and pregnancy.

## CASE HISTORY

A 37-year-old woman, gravida 7, parity 4+2 had laparoscopic Roux-en-Y gastric bypass surgery, as treatment for morbid obesity (Height: 1.68 meters, Weight: 139.6 Kg, Body Mass Index of 49.5), 6 months prior to her pregnancy. Two years previously she had been treated for deep venous thrombosis. Following the procedure she recorded a 41kg weight loss over a period of six months. As a result, she reported that her general feeling of well being had significantly improved while her asthma had completely resolved. Also, her blood lipid profile showed a dramatic improvement. Before pregnancy she was taking daily doses of

multivitamins and iron supplements.

She booked for hospital care and confinement at 9 weeks and weighed 106.5kg (body mass index 37) at booking. During the course of her pregnancy, she remained normotensive. Her diabetic screen was negative and close monitoring of the foetus with serial ultrasound scans showed a normal growth velocity. Her haemoglobin, mean cell volume, magnesium, calcium and serum folate levels remained normal.

She remained on low molecular weight heparin (Enoxaparin Sodium) throughout the pregnancy for thrombo-prophylaxis and was compliant with her iron and vitamin supplements. She delivered spontaneously a healthy male baby vaginally at 37 weeks gestation that weighed 3471gms.

## DISCUSSION

Morbidly obese pregnant women are at an increased risk of developing adverse perinatal outcomes compared to non-obese pregnant women. These include an increased caesarean section rate (32.4% vs. 14.3%), macrosomia (30.2% vs. 11.6%), intrauterine growth retardation (8.1% vs. 0.9%), and neonatal admission to the intensive care unit (15.6% vs. 4.5%) (2). They are also more likely to have chronic hypertension (27.0% vs. 0.9%) and insulin-dependent diabetes mellitus (19.8% vs. 2.7%).

It is expected that the risks of these obesity related morbidities would decrease following weight reduction. Roux-en-Y gastric bypass promotes weight loss by restricting food intake as well as reducing food absorption from the gastrointestinal tract. Complications have been reported with pregnant women following gastric bypass surgery. These women may be at risk of gastrointestinal complications because of the changes associated with pregnancy. Cases of internal herniation, intussusception, small bowel ischaemia and fetal demise (due to sepsis) have been reported (3). It is particularly important not to delay surgical exploration as this might lead to devastating bowel strangulation and sepsis culminating in loss of foetus and mother.

Morbidly obese patients often have nutritional deficiencies, particularly in fat-soluble vitamins, folate and zinc. After gastric bypass surgery, these deficiencies may increase (4). Severe iron deficiency, which is refractory to oral supplementation, can result from malabsorption (5). Malabsorption of antibiotics as a result of surgery leading to difficulties in treatment of concurrent infections has been reported (6). Low birth weight related to maternal hypoalbuminaemia is an associated problem (7).

There is no universal agreement as to the best time of pregnancy after surgery. Postponement of pregnancy, until all metabolic parameters have been returned to normal (up to 36 months) has been advised (7). However, more recent studies revealed no significant differences in pregnancy outcomes between one group of patients who became pregnant within the first year of surgery and another group who became pregnant after one year (8,9).

Gastric bypass surgery is now becoming a popular procedure in UK. It is likely that obstetricians will be managing more of these cases in the future. To achieve the best outcome we should be aware of the potential problems related to these cases. Careful nutritional follow up, monitoring of foetal growth and awareness of the serious gastrointestinal complications are cornerstone of management of these cases.

## REFERENCES

1. [Allison DB, Fontaine KR, Manson JE, Stevens J, VanItallie TB. Annual deaths attributable to obesity in the United States. Journal of American Medical Association.1999; 282\(16\):1530-1538](#)
2. [Perlow JH, Morgan MA, Montgomery D, Towers CV, Porto M. Perinatal outcome in pregnancy complicated by massive obesity. American Journal of Obstetrics and Gynecology 1992; 167\(4 Pt 1\): 958-962](#)
3. [Charles A, Domingo S, Goldfadden A, Fader J, Lampmann R, Mazzeo R. Small bowel ischaemia after Roux-en-Y gastric bypass complicated by pregnancy. American Surgeon. 2005; 71 \(3\): 231-234](#)
4. [Malinowski SS. Nutritional and metabolic complications of bariatric surgery. The American Journal of the Medical Sciences. 2006; 331\(4\): 219-225](#)
5. [Gurewitsch ED, Smith-Levitin M, Mack J. Pregnancy following gastric bypass surgery for morbid obesity. Obstetrics and Gynaecology.1996; 88 \(4 Pt 2\): 658-661](#)
6. [Magee SR, Shih G, Hume A. Malabsorption of oral antibiotics in pregnancy after gastric bypass surgery. Journal of American Board of Family Medicine. 2007; 20: 310-313](#)
7. [Ingardia CJ, Fischer JR. Pregnancy after jejunoileal bypass and the SGA infant. Obstetrics and Gynaecology.1978; 52 \(2\): 215-218](#)
8. [Dao T, Kuhn J, Ehmer D, Fisher T, McCarty T. Pregnancy outcomes after gastric bypass surgery. American Journal of Surgery 2006; 192\(6\):762-766](#)
9. [Maggard MA, Yermilov I, Li Z, Maglione M, Newberry S, Suttorp M, Hilton L, Santry HP, Morton JM, Livingston EH, Shekelle PG. Pregnancy and fertility following bariatric surgery: a systematic review. JAMA. 2008 Nov 19;300\(19\):2286-96](#)