Management of pregnant women who have had bariatric surgery

Guideline

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1.0 KEY POINTS

- **Women with previous bariatric surgery have high risk pregnancies**
- **Their care should be in the medical antenatal clinic**
- **Nutritional supplementation, surveillance and dietary advice is important**
- **All need screening for gestational diabetes whatever their booking BMI.**
- **If unwell with abdominal pain / hyperemesis later in pregnancy consider surgical complications early and discuss with the medical antenatal team.**

2.0 INTRODUCTION

This guideline is based on international consensus recommendations, guidelines from the British Obesity and Metabolic Surgery Society and American Association of Clinical Endocrinologists. It provides guidance on the management of pregnant women who have had bariatric surgery.

3.0 DEFINITIONS

RYGB – Roux en y gastric bypass

SG – Sleeve Gastrectomy

LAGB – Laparoscopic adjustable gastric band

CGM – capillary blood glucose

OGTT – oral glucose tolerance test (75g)

CGMS – continuous glucose monitoring

4.0 MANAGEMENT DURING PREGNANCY

4.1 Midwife to refer woman to medical antenatal clinic at booking. The woman should have HbA1c and random plasma glucose taken with booking bloods.

4.2 Medical antenatal team will see woman as soon as possible in clinic to ensure:

- Correct micronutrient supplementation – depends on type of surgery, see table 1 below
- Blood test for nutritional monitoring – depends on type of surgery, see table 2 below
- Dietary advice reiterated including provide booklet "preparing for and managing pregnancy after bariatric surgery" and further referral to bariatric dietitian if required
- Check women with LABG managing, routine band defills not required

4.3 Advised supplementation during pregnancy, Table 1

Supplement	**LAGB**	**RYGB & SG**
A-Z multivitamin containing B Carotene form of vitamin A at no greater than 5000 IUnits	Forceval CAPSULE, one daily (DO NOT give forceval soluble, this contains the wrong type of vitamin A) If intolerant of forceval capsule give pregnancy multivitamin & mineral, one daily instead.	
Adcal D3	One, twice daily	
Vitamin D	25mcg twice daily	
Folic acid	5mg once daily Ideally for at least 3 months preconception and for the 1st trimester	
Thiamine For the first 2 years after surgery	50-100mg once daily	
Ferrous gluconate	Not routine	300mg once daily
Vitamin B12	Not routine	1mg IM 3 monthly (from 6 months post op)

4.4 Nutritional monitoring during pregnancy, Table 2

Baseline	every 3 months thereafter
All types of Bariatric surgery:	
FBC, B12*, Folate, Ferritin, Transferrin saturations	repeat
Ca, PO4, Mg, 25(OH) Vitamin D, PTH**	Repeat (no Vitamin D or PTH unless concern)
Renal, liver function	Repeat
HbA1c/FPG – ideally at booking	Test for GDM at 24-28 weeks – see section 5
Additional tests if woman has had RYGB or SG	
Vitamin A & E	repeat
INR (for vitamin K)	repeat
Zinc, Copper***, Selenium	repeat

- * B12 decreases during pregnancy, Check methylmalonic acid if initial test is low and woman not on B12.
- ** Blood for PTH needs to be spun within 60 mins so send to lab urgently if unable to spin sample.
- *** Copper increases in pregnancy, high intake of zinc can interfere with copper absorption. Iron supplements may inhibit intestinal zinc and copper absorption.

4.5. The Medical antenatal team will routinely review the woman at 28 weeks after she has had testing for gestational diabetes and her first growth scan. If there are any nutritional concerns, the team will review her earlier.

Fetal growth will be monitored with serial scans until delivery.

5.0 TESTING FOR GESTATIONAL DIABETES (GDM)

5.1 All women who have had bariatric surgery should be tested for GDM whatever their booking BMI

5.2 Method of testing for GDM depends on type of surgery that the woman has had

LAGB	RYGB & SG
75g OGTT as per usual policy @ 24-28 weeks gestation	Medical antenatal team will arrange for woman to perform 1 week of CBG testing fasting & post meal @ 24-28 weeks gestation. If more than 2 readings out of target at a time point then treat as GDM

6.0 MANAGING COMPLICATIONS – additional considerations

6.1. Vomiting

- If LAGB- contact medical antenatal team. Might need band defill, review if possible band slippage
- If Hyperemesis- give IV thiamine (pabrinex) this can help to break the cycle of hyperemesis
- IF RYGB or SG and in 3rd trimester– **consider** the possibility of obstruction and seek help early if appropriate.

6.2. Dumping can worsen during pregnancy. These are vasomotor symptoms such as sweating, diarrhoea, palpitations occurring within 30-60 minutes of eating and up to 3 hours after.

- Avoid causative food
- Optimise timing of fluid intake
- Optimise eating behaviours

6.3. Post bypass hypoglycaemia can worsen during pregnancy. These are neuroglycopaenic symptoms with documented hypoglycaemia occurring 1-3 hours after food.

- Ensure woman is eating regular meals of low glycaemic index carbohydrate, protein with each meal and not drinking with food
- Consider additional thiamine 100mg bd to help carbohydrate metabolism
- Inform bariatric dietitian

6.4 Reflux symptoms can worsen during pregnancy. Restart regular Omeprazole (20mg-40mg daily)

6.5 Cholelithiasis is more common in pregnancy and increases after bariatric surgery

7.0 DELIVERY

7.1 A history of bariatric surgery is not an indication for a caesarean section.

7.2 If a caesarean section is planned remember:

- If the woman has had an abdominoplasty there will be dermatomal changes- check posterior lateral abdomen
- If there is an abdominal apron (excess skin) consider a suprapannus incision

8.0 POST PARTUM

8.1 Encourage early mobilisation
8.2 Encourage breast feeding
8.3 Ensure nutritional supplements continue and that multivitamins are changed back to pre-pregnancy ones as in table below

Supplement	LAGB	RYGB & SG
A-Z multivitamin (Forceval Capsule, Holland and Barrett ABC Plus, Sanatogen A-Z complete, Tesco A-Z or Lloyds Pharmacy A-Z Multivitamins and Minerals)	One, once daily	One, twice daily
Adcal D3	One, twice daily	
Vitamin D	25mcg twice daily	
Thiamine For the first 2 years after surgery	50-100mg once daily	
Ferrous gluconate	Not routine	300mg once daily
Vitamin B12	Not routine	1mg IM 3 monthly (from 6 months post op)

8.4 Advise woman to attend for usual nutritional monitoring post bariatric surgery with GP 3 months post partum. If breastfeeding, nutritional monitoring should continue 3 monthly, if not breastfeeding this can revert to annual nutritional monitoring after the first post partum test. Use link for up to date monitoring advice : https://www.somersetft.nhs.uk/bariatric-surgery/summary-of-guidelines-for-the-supplementation-and-blood-monitoring-for-patients-following-bariatric-surgery/

9.0 REFERENCES

- Pregnancy after bariatric surgery: Consensus recommendations for periconception, antenatal and postnatal care, Obesity Reviews 2019 **https://doi.org/10.1111/obr.12927**

- British Obesity and Metabolic Surgery Society Guidelines on perioperative and postoperative biochemical monitoring and micronutrient replacement for patients undergoing bariatric surgery – 2020 update https://onlinelibrary.wiley.com/doi/10.1111/obr.13087

- Clinical practice guidelines for the perioperative nutrition, metabolic, and nonsurgical support of patients undergoing bariatric procedures – 2019 update https://onlinelibrary.wiley.com/doi/abs/10.1002/oby.22719

- https://www.somersetft.nhs.uk/bariatric-surgery/summary-of-guidelines-for-the-supplementation-and-blood-monitoring-for-patients-following-bariatric-surgery/