Bariatric Surgery and Pregnancy

Week 31

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Reading Assignment:
ACOG Practice Bulletin 105: Bariatric surgery and pregnancy
LEARNING OBJECTIVES

• Understand the effects of bariatric surgery on maternal and neonatal outcomes
• Understand nutritional issues specific to pregnancies after bariatric surgery
• Understand complications specific to pregnancies after bariatric surgery
CASE VIGNETTE

• A 34 yo G2 P0010 woman at 14 weeks EGA presents for a new OB visit. She reports mild fatigue but is otherwise doing well.
FOCUSED HISTORY

• PMH: **Obesity**; history of CHTN, DM2 (both resolved)
• PSH: **Roux-en-y gastric bypass (2017)**
• OBHx: 1 x VTOP
• GynHx: Denies
• FH: Obesity
• SH: No toxic habits
• Meds: Multivitamin
• All: NKDA
PERTINENT PHYSICAL EXAM FINDINGS

• VS: Wt 98 kg, Ht 165 cm, **BMI 36.0**; BP 120/80, P 90, T 37.0
  • Gen: NAD, pale
  • HEENT: WNL
  • Chest: CTAB
  • CVS: RRR
  • Abd: Soft, NT, obese
  • GU: WNL

• Bedside U/S: SIUP @ 14 weeks, FHR 150s
BARIATRIC SURGERY: BACKGROUND

• Patient population: BMI ≥ 40, or BMI ≥ 35 with comorbidities

• Procedure types:
  • **Restrictive**: gastric banding, sleeve gastrectomy
  • **Malabsorptive**: jejunoileal bypass, biliopancreatic diversion
  • **Both**: Roux-en-Y gastric bypass, duodenal switch

• Benefits of surgery likely related to weight loss
  • Reduced comorbid conditions, increased fertility
  • Rapid weight loss in the 1st 12-24 months
BARIATRIC SURGERY: MATERNAL OUTCOMES

• Effects on maternal morbidity/mortality
  • Decreased rates of cHTN, gHTN, PEC, GDM, DM
  • Decreased average weight gain
  • Decreased risk of delivering LGA infant
  • Higher cesarean rates (similar to obese population, who are more likely to have a hx of CD)
  • Obesity can persist
  • Nutritional requirements differ
BARIATRIC SURGERY: PERINATAL OUTCOMES

• Effects of neonatal morbidity/mortality
  • Limited data
  • Trend towards decreased macrosomia
    • Birth weight still dependent on maternal comorbidities (weight gain, DM, etc)
  • No increased risk of congenital anomalies, perinatal morbidity or mortality
HOW LONG SHOULD YOUR PATIENT WAIT TO CONCEIVE AFTER UNDERGOING A BARIATRIC PROCEDURE?

• 12-24 months delay between surgery and conception

• Risks of early conception
  • Possible higher rates of PTD, NICU admission, SGA, IUGR (data inconsistent)
  • Weight gain during pregnancy and loss during postpartum period are variable
  • No effect on overall total weight loss for the patient
NUTRITIONAL ISSUES IN PREGNANCIES FOLLOWING BARIATRIC SURGERY

• Micronutrient deficiencies
  • Vitamin B12, Vitamin D, iron, folate, calcium

• Protein deficiency

• How do you manage?
  • Nutrition consult
  • Recommended weight gain per Institute of Medicine recommendations based on pre-gestational BMI
  • Micronutrient labs + CBC + ferritin every trimester
    • Supplementation as indicated
      • Vitamin B12 1000 mcg IM weekly
      • Vitamin D 400 IU QD
      • Iron 65 mg QD
      • Folate 800 mcg QD
      • Calcium citrate 1200 mg QD
  • Protein intake of 60 gm daily recommended
  • “Active band management” to improve PO intake, relieve nausea/vomiting
HOW DO YOU SCREEN/MANAGE GESTATIONAL DIABETES IN PREGNANCIES FOLLOWING BARIATRIC SURGERY?

• Oral glucose challenge test?
• Risk of dumping syndrome in women who have had malabsorptive procedures
  • Dumping syndrome: following the ingestion of refined sugars, rapid fluid shifts into bowel lead to small bowel distention, n/v, diarrhea; possible hyperinsulinemic milieu and thus hypoglycemic state
• Recommendation
  • Consider 1 week of fasting and 2-hour post-prandial POCs in this who have had malabsorptive procedures
  • Normal 1-hr GCT for those who underwent restrictive procedures
• GDM/DM Treatment
  • Oral agents may not be well-absorbed; insulin may be preferable
OTHER CONCERNS

• Postoperative complications
  • Bowel obstruction, anastomotic leak, gastric erosion, herniation, band erosion, band migration, GI hemorrhage
  • Abdominal pain, nausea, vomiting are not benign*
  • Early consultation/co-management with bariatric surgeon
  • PPI to prevent erosion if indicated

• Oral medications
  • No extended-release preparations of medications after malabsorptive procedures (oral solutions/rapid-release formulations instead)
  • Avoid NSAIDs

• Contraception
  • Oral formulations not absorbed well
  • Use nonoral contraceptive methods
HOW WILL YOU MANAGE THE PATIENT?

• Lab work: micronutrient labs, prenatal labs, including ferritin; early screening for GDM due to obesity
  • GDM screening method?
    • 1 week of fasting/2 hr PP POCs

• Early involvement of bariatric surgeon

• Nutrition consultation

• Antepartum testing due to obesity, growth ultrasounds to assess fetal growth
BILLING AND CODING

• Diagnoses:
  • O99.84: Bariatric surgery status complicating pregnancy, childbirth, and the puerperium
  • D51.0: Vitamin B12 deficiency
  • O99.210: Obesity complicating pregnancy
**BILLING AND CODING**

CPT Code: New outpatient visit
- At least 99203 (higher if attending sees patient with you)

CPT Code: Established outpatient visit
- At least 99213 (higher if attending sees patient with you)

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<th>Established Patient Visit</th>
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<td><strong>CPT Code</strong></td>
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<td>Required Key Components <em>(3/3 required)</em></td>
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<td>History and Exam</td>
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<td>• Problem-Focused</td>
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<td>• Expanded Problem-Focused</td>
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<td>• Detailed</td>
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<td>• Comprehensive</td>
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<td>• Straightforward</td>
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<td>• Moderate</td>
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<td>• High</td>
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| Coordination of Care | 5 | 10 | 15 | 25 | 40 |

