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Obesity in Pregnancy

Background

1. Definition
   - Maternal pre-pregnancy BMI ≥30 kg/m2[1]
2. General information
   - Prevention and early management key to limiting multiple maternal and fetal adverse outcomes associated with obesity in pregnancy

Pathophysiology

1. Pathology multifactorial
2. Prevalence
   - 6-28%
   - Increased in concordance with increased prevalence of obesity in the general population
3. Risk factors
   - Family history of obesity, sedentary lifestyle, poor dietary habits, low socioeconomic status, African-American ethnicity, certain medical conditions
4. Morbidity / mortality
   - Maternal
     - Increased risk for subfertility, dizygotic twins, gestational diabetes, type II diabetes, gestational hypertension, preeclampsia, postterm pregnancy, increased duration of labor, labor dystocia, urinary tract infections, obstructive sleep apnea, uterine rupture during trial of labor after cesarean (TOLAC), cesarean section, anesthetic complications, wound complications, postpartum hemorrhage, lactation failure
   - Fetal
     - Increased risk for spontaneous abortion, congenital anomalies, heart defects, preterm birth, cephalopelvic disproportion, macrosomia, shoulder dystocia, perinatal death, childhood obesity

Diagnostics

1. History
   - Height, weight, BMI calculation at first visitation
   - Review past medical history, specifically history gestational diabetes, type II diabetes, sleep apnea, depression, obstetric history
2. Physical exam
   - Blood pressure
   - Particular emphasis on thyroid abnormalities, skin, mood
3. Diagnostic tests
   - Laboratory evaluation
     - Early 1 hr glucose challenge test (<20 wks gestational age) to screen for gestational diabetes
     - Alpha-fetoprotein 15-18 wks gestation to screen for neural tube defects
4. Diagnostic imaging
   - Abdominal ultrasound 16-20 wks gestation to screen for congenital anomalies

Differential Diagnosis (causes of obesity to consider)

1. Hypothyroidism
2. Cushing syndrome
3. Insulinoma
4. Polycystic ovarian syndrome
5. Depression / anxiety
6. Hypothalamic/pituitary lesions
7. Medications

Therapeutics

1. Acute treatment (preconception/antepartum)
    - Advise preconception weight reduction with diet, exercise and lifestyle changes with goal normal BMI (SOR:C) [2]
    - Nutrition consultation
    - Advise limitation of maternal weight gain
        - Based on Institute of Medicine 2009 recommendations, ideal weight gain 11-20 lb during pregnancy (0.5 lb/wk during 2nd and 3rd trimester) (SOR:C)[3]
    - Some experts recommend even less weight gain for women with prepregnancy BMI >35 kg/m2 to increase favorable pregnancy outcomes[4]
    - Same routine obstetric follow-up recommended as for non-obese gravidas with specific attention to weight gain, nutrition, exercise history and blood pressure
    - No significant weight control benefit found with behavioral intervention for obese pregnant women[5]
2. Intrapartum
    - Early anesthesia consultation
3. Postpartum care
    - Lactation consultation
    - Weight loss counseling
    - Routine postpartum visit 6-8 wks
    - Type II diabetes screening at postpartum visit if history gestational diabetes
4. Consider consultation to obstetrics and/or maternal fetal medicine for antenatal or intrapartum complications (see morbidity/mortality)
5. Consider maternal hospital admission for
    - Uncontrolled diabetes
    - Preeclampsia
    - Fetal concerns
    - Labor
    - Delivery or postoperative complications

Prognosis

1. Preconception weight reduction and limitation of maternal weight gain during pregnancy recommended for improved maternal and fetal health benefits

Prevention

1. Counseling for overweight or obese women of reproductive age
    - Weight reduction with diet, exercise and lifestyle changes
2. Close monitoring of recommended weight gain during pregnancy

Table - New recommendations for Total and Rate of Weight Gain During (Singleton) Pregnancy, by Pre-pregnancy BMI

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