

MACROSOMIA

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Definition

-estimated fetal weight: >4000-4500gr at birth

>95th centile for gestational age

-according to ACOG macrosomia is above 4500gr, which increases morbidity substantially but there is some increase of morbidity above 4000gr.

Epidemiology

-1-5% (>4000gr): range between 0.5 to 15% (~9%)

Predisposing factors

- high BMI (>25-30)
- excessive weight gain during pregnancy
- advanced age (>35 years)
- nulliparous
- diabetes mellitus
- post term pregnancy
- history of macrosomia
- male sex
- genetic syndromes (Beckwith-Wiedeman, Sotos, Pallister, Killian, Costello)

Complications

- cephalo-pelvic disproportion (protraction or arrest)
- caesarean section
- instrumental delivery
- perineal tear
- uterine atony-postpartum hemorrhage
- uterine rupture
- shoulder dystocia
- brachial plexus paralysis
- clavicular fracture
- hypoxia
- neonatal hypoglycemia

Diagnosis

Symphysis-fundal height measurement:

- measurement of distance between upper edge of pubic symphysis and the top of uterine fundus by using a tape measure.
- discordancy between measurement and expected size for dates.
- measurement is at least 3cm above gestational age in weeks.
- sensitivity varies between 10-43%
- factors affecting accuracy: BMI, bladder volume, parity, ethnicity.
- controversial method of screening for macrosomia

Diagnosis

Abdominal palpation:

- sensitivity ranges between 34-68% (if combined with symphysis fundal height measurement)
- not recommended as a diagnostic tool.

Diagnosis

Ultrasound:

- if estimation carried out at 30-34 there is great underestimation due to accelerated fetal growth during late third trimester
- BPD, HC, AC, FL, EFW >95th centile for age
- sensitivity 12-75% for EFW>4000gr
- diabetes: AC enlarged: tends to over-estimate EFW

Diagnosis

abdominal circumference (AC):

- most common and reliable single parameter used to assess risk of macrosomia
- threshold is 35-38cm
- liver incorporation is important as it reflects growth abnormalities
- sensitivity depends on the cut-off and definition
- diabetes: increased AC due to fat deposition
 - AC>75th centile: index of poor glycemic control

HC/AC:

- no value as a large fetus has a normal ratio

Diagnosis

Abdominal circumference (AC)



Management

Caesarean section

- if EFW >4250-4500 gr

- in order to avoid macrosomia-related complications

Prevention

Oral glucose tolerance test 24-28 weeks

Growth ultrasound 28, 32, 36 weeks

-especially in diabetes in case of enlarged AC

Prevention

Oral glucose tolerance test (OGTT)

-EFW >4000gr + GCT >120mg/dl: predictive value 71%

-EFW >4000gr + GCT <120mg/dl: predictive value 60%

Ultrasound

-AC >75th centile in diabetes: poor glycemic control and increase risk of macrosomia



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