



- **Definition:**

- Fetus fails to reach his potential growth. This condition is associated with increased perinatal mortality and morbidity and it is a common cause of stillbirth (carrying a dead fetus!).

- **Types of IUGR:**

- **Symmetrical:** number of cells are less and the growth potential is lacking from the beginning of pregnancy (head and abdomen are both small). Causes include the following:
 - ✓ Chromosomal abnormalities.
 - ✓ Congenital (structural) abnormalities.
 - ✓ **Fetal infections (TORCH):**
 - ❖ **T: Toxoplasmosis.**
 - ❖ **O: Others** (coxakievirus, chickenpox, parvovirus, Chlamydia, HIV and syphilis).
 - ❖ **R: Rubella.**
 - ❖ **C: Cytomegalovirus.**
 - ❖ **H: Herpes simplex virus-2**
- **Asymmetrical:** lack of growth potential in the abdominal circumference while head is spared (with later manifestations, the head might also be affected). The cause is placental insufficiency (leading to chronic fetal hypoxemia).

- **Small for Gestational Age (SGA):**

- Below the 10th percentile of the expected weight for a gestational age.

- **Causes of growth restriction:**

- **Maternal:** malnutrition, anemia, alcohol, smoking, drug abuse, uterine abnormalities and maternal diseases.
- **Fetal:** chromosomal, structural, fetal infections and multiple gestation.
- **Placental:** placental abnormalities, separation of placenta, placenta previa situated in lower segment of the uterus and tumor of placenta.

- **Identification of growth restriction:**

- **Ultrasound:** assessment of gestational age by measuring the crown-rump length (this is considered to be the best method). Ultrasound parameters include the following:
 - ✓ Bi-parietal diameter.
 - ✓ Head circumference.
 - ✓ Abdominal circumference.
 - ✓ Femoral length.

Note: ultrasound is followed by palpation and measurement of fundal height.
- **Other methods include:**
 - ✓ Amniotic fluid volume evaluation.
 - ✓ Fetal movements: the mother should count 10 fetal movements per day.
 - ✓ Non-stress test: effect of fetal movement on the heart rate of the fetus:
 - ❖ More than 160 → tachycardia.
 - ❖ Less than 110 → bradycardia.
 - ✓ Doppler flowmetry: assessing the flow of blood in the uterine vessels.

