MONITORING AND MODERN MANAGEMENT MULTIPLE PREGNANCY- points to remember

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- **THE FREQUENCY OF MONOZYGOTIC TWINS IS SAME approx. 1 in 250 births throughout the world, independent of race, heredity, age and parity**
- **The incidence of dizygotic twins is increasing due to ART**
- **What is meant by zygosity & chorionicity?**
    - ***ZYGOSITY* refers to genetic makeup of twin**
    - ***CHORIONICITY* refers pregnancy membrane status**
- **Why Is it important to know chorionicity?**
- **As monochorionic twins have more complications**

Complication	Dichorionic pregnancy	Monochorionic pregnancy
Miscarriage (<24 weeks)	1.8%	12.2%
Fetal anomalies (vs. singletons)	1:1	3:1
Perinatal mortality (>24 weeks)	1.6%	2.8%
Preterm delivery (<32 weeks)	5.5%	9.2%
Fetal growth restriction	12.0%	21.0%
Birth weight <5 centile in both twins	1.7%	7.5%

- **When and how should chorionicity be assessed?**
- **It is done by USG Ideally when crown–rump length measures from 45 mm to 84 mm (at approximately 11 weeks 0 days to 13 weeks 6 days)**
    - **number of placental masses**
    - **'lambda' or 'twin peak' sign (dichorionic)**
    - **'T-sign' (monochorionic) at the membrane-placenta interface**
    - **membrane thickness**
- **If chorionicity and amnionicity cannot be ascertained, manage as monochorionic pregnancy**
- **What are the fetal risks associated with multiple pregnancy?**

- **Still birth/ neonatal death (stillbirth rate is 12.3 per 1,000 twin births and 31.1 per 1,000 triplet and higher-order multiple births)**
- **Single fetal death in twin pregnancy**
- **Higher risks of congenital anomalies 4.9% more common**
- **IUGR , SGA (66% of unexplained stillbirths are associated with a birthweight of less than the tenth centile)**
- **Preterm births , cord accidents**
- **TTTS (accounts for about 20% of stillbirths)**
- **Conjoint twins (not seen frequently now ..Thanks to ultrasound)**

- **Monochorionic twins have 3 times higher risk of Structural anomaly then dichorionic. Cardiac anomalies are higher – So Detailed fetal echo at 18 to 22 weeks should be done**
- **SPECIFIC COMPLICATIONS associated with MCDA pregnancy?**
  - **TTTS**
  - **TRAP (twin reversed arterial perfusion sequence)**
  - **Twin anaemia-polycythaemia sequence (TAPS) – may be seen in babies complicated by TTTS, even if treatment has been performed**
  - **Single intrauterine death**
  - **Stuck Twins**
  - **Congenital anomalies**
  - **Acardiac twin**
  - **Selective growth restriction**
  - **Monochorionic, monoamniotic pregnancies (1% of twin pregnancies) carry a very high risk of cord entanglement**
- **Antepartum monitoring in MCDA - Frequency of antenatal visits & optimum ultrasound regimen for monochorionic twin pregnancies?**
  - **Frequent ANC every 2-3 wks from 16 wks onward**
  - **Fetal ultrasound every 2 weeks in uncomplicated monochorionic pregnancies from 16+0 weeks onwards until delivery**
  - **USG between 16 and 24 weeks focus primarily on detection of TTTS (first presentation of TTTS is uncommon after 26 weeks)**
  - **liquor volume in each of the amniotic sacs +umbilical artery pulsatility index (UAPI). Fetal bladders should also be visualized**
- **Twin-to-twin transfusion syndrome (TTTS)**

- affects 15% of monochorionic twin pregnancies
- ULTRASOUND CRITERIA: TTTS
    - Presence of a single placental mass
    - Concordant gender
    - Oligohydramnios with maximum vertical pocket (MVP) <2 cm in one sac and polyhydramnios in other sac (MVP ≥ 8 cm)
    - Discordant bladder appearances – severe TTTS
    - Haemodynamic and cardiac compromise – severe TTTS.
- Treatment in conjunction with fetal medicine specialist
    - Stage 1 – expectant
    - Stage II, III,IV – laser ablation (best time 16- 26 wks)
    - Stage V – counsel regarding death of fetus
- **TWIN ANEMIA POLYCYTHEMIA SEQUENCE (TAPS)**
- Significant difference in haemoglobin levels between donor & recipient without discrepancies in amniotic fluid levels
- Incidence of TAPS - monochorionic 3 to 5%
- ANEMIA in donar MCA PSV >1.5 MOM , POLYCYTHEMIA in recipient MCA PSV <1.0 MOM
- Management – intrauterine transfusions
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- **SINGLE INTRAUTERINE DEMISE MANAGEMENT - OPTIMAL CLINICAL MANAGEMENT**
- First trimester- No additional surveillance
- Death after 1 trimester but before viability –
    - Monochorionic- pregnancy termination
    - If death of one dichorionic is due to discordant congenital anamoly in first trimester – does not effect other
- Death in Late second & early third – greater risk to surviving twin
    - Risk of neurological damage comparatively higher in monochorionic
    - Preterm risk equal in both
- Unless intrauterine environment hostile , goal is to prolong preterm pregnancy
- Timing of delivery after conservative m/n of Single fetal demise in Late second & early third

    - **Dichorionic – can safely delivered at term**
    - **Monochorionic – 34 to 37 wks**
- **Death of one twin at term - deliver**
- **Single demise - Per se not an indication for caesarean section**
- **Antepartum monitoring – MonoChorionic MonoAmniotic**
- **Scans at 2 weekly interval from 16 weeks onwards in the Fetal Medicine Unit**
- **At each scan the following should be documented**
    - **liquor volume , fetal bladders, biometry ,EFW**
    - **assessment of intracranial anatomy**
    - **assessment of the cords with colour flow Doppler**
    - **Where there is evidence of cord entanglement, scans are done weekly**
- **ANTEPARTUM MONITORING FOR DICHORIONIC TWIN**
- **ANC visits every 4wks from 16 wks onward**
- **Fetal ultrasound assessment every 4 weeks in uncomplicated DIchorionic pregnancies from 20 weeks onwards until delivery along with level 1 & level 2 scan**
- **Umbilical artery Doppler if baby is small**
- **DISCORDANT GROWTH OF TWINS - MONITORING FOR SELECTIVE FETAL GROWTH RESTRICTION**
- **Abdominal palpation or symphysis–fundal height measurements NOT TO BE USED to predict IUGR.**
- **Estimate fetal weight discordance at each scan from 20 weeks, 3-4 weekly.**
- **EFW Discordance = weight of larger twin- wt of smaller/ wt of larger**
- **20% or greater difference in size is a clinically important indicator of sFGR**
- **Umblical artery doppler helps guide M/N**
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