Key take home messages from DGFS CME on 11/6/2021

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General principles and practical points:

1. Ensure dating is correct by cross checking early scans.
2. Calculate centiles of biometry/Doppler PI for the gestational age.
3. Use gestation specific cut off ranges
4. Use charts – every USG machine has inbuilt charts for estimated fetal weight (EFW) as well as Dopplers. Enter subsequent USG examinations for each patient in the same ID in USG machine so that all ultrasounds done so far are plotted on the same chart and trends can be followed.
5. Free charts available: Fetal Medicine Foundation (UK), Barcelona calculator, Perinatology.com
6. Differentiate SGA from FGR: no Doppler abnormalities in SGA
7. Use Pulsatility index (PI) for Dopplers and not S/D ratio
8. Routine third trimester USG (growth and Dopplers) improves detection of FGR and should be offered wherever feasible. Whenever growth scan is done, dopplers should be also be done even if EFW is above 10^{th} centile.
9. Gratacos stage-based classification and management of FGR (both early onset and late onset) helps in planning frequency of surveillance and timing of delivery
10. Steroids to be given when delivery becomes imminent before 34 weeks as any benefit is lost after 7 days and evidence accumulating against repeat/rescue dose

Late FGR:

1. Easy to miss because presents after 32 weeks and umbilical artery flows are normal
2. New definition incorporates Dopplers in the diagnosis of FGR and not just EFW
   EFW < 10^{th} centile **PLUS** any of these: uterine artery PI>95^{th}, CPR<5^{th} centile, umbilical artery PI>95^{th} or AEDF in umbilical artery
   CPR above 1 is NOT always normal – centile is more important, this holds true for all Doppler PIs.
3. Once late FGR has been diagnosed, frequency of surveillance:
   - Weekly Dopplers
   - Weekly NST (preferable after 34 weeks)
   - Daily fetal kick count
4. Timing of delivery:
   Consider at/after 37 weeks and no later than 38^{+6} weeks (36-37^{+6} if Umb PI > 95^{th}, 38-39 if only MCA PI < 5^{th} and EFW between 3^{rd} to 10^{th} centile)
   Induction of labour with continuous intrapartum CTG monitoring
   Anytime if A/REDF in umbilical artery and deliver by cesarean section.
   Anytime for maternal indication

No role of DV Doppler in late FGR

5. No role of steroids after 34-36 weeks especially if labour is being induced
6. No role of magnesium sulphate for neuroprotection after 32 weeks

Early FGR:

1. Easy to diagnose but difficult to manage as only treatment is surveillance & delivery
2. When FGR presents before 24 weeks, thorough check for structural abnormalities, fetal infection and chromosomal abnormalities. Offer amnio for microarray (and viral PCR if indicated on maternal TORCH profile).
3. Surveillance:
   Umbilical artery > 95th centile but end diastolic flow present: Weekly Dopplers
   AEDF in umbilical artery: Alternate day Dopplers (Offer admission)
   REDF: Daily Dopplers (Advise admission)
   NST can be added but to be interpreted with caution in preterm fetuses as they will have decreased variability and tachycardia. Only trigger for delivery would be persistent, repetitive deep decelerations.
4. Timing of delivery:
   AEDF: 32-34 weeks
   REDF: 30-32 weeks
   DV a wave absent/reversed: anytime after viability (to be guided by local NICU)
   Anytime for maternal indication
   Steroids when delivery seems imminent in the coming week
   Magnesium sulphate for neuroprotection before 32 weeks
5. Mode of delivery: AREDF/DV absent a wave – LSCS

Last case of panel highlighted how Dopplers can be misinterpreted if gestational age is calculated incorrectly.
Dopplers are not predictive of fetal safety in Diabetes and cholestasis.