Health Innovation Oxford and Thames Valley Regional Maternity Guideline

Algorithm for Management of Preterm Singleton / DC Twin Intrauterine Growth Restriction (IUGR)

Updated 10 Oct 2023 V3

Section 1: Management of Severe Preterm Singleton / DC Twin IUGR without Absent End-Diastolic Flow

EFW[1] **OR** AC[2] <10th centile[3] with UmbA[4] RI/PI[5] >95th centile at <34+0 weeks

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Repeat anomaly scan
Check maternal CMV and toxoplasmosis (IgM) status
Consider uterine arteries, middle cerebral artery Doppler, invasive testing (PCR, microarray +/-R21 if eligible)

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Likely Placental origin → Gestation ≥23+0 and EFW[1] ≥450g → UmbA[4] RI/PI > 95th c → Repeat UmbA[4] 2 / week, Monitor mother (BP[8] and urinalysis)

Likely fetal origin → Manage appropriately, Consider IUT[10]

Gestation <23+0 **OR** EFW[1] < 450g → See 1 – 2 weeks

Repeat UmbA[4] 2 / week, Monitor mother (BP[8] and urinalysis) → UmbA[4] AEDF[6]

UmbA[4] AEDF[6]:
- <32+0 → See Section 2
- ≥32+0 → Delivery by CS[7]

Section 2: Management of Severe Preterm Single / DC Twin IUGR with Absent End-Diastolic Flow

UmbA[4] AEDF[6] detected with EFW >/=450g (note significant growth now unlikely)

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Steroids (may get temporary improvement)
Daily fetal assessment
Monitor mother BP[8] and urinalysis

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- **<25+0**
  If active Rx requested[9]:
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  Daytime IUT[10]
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  UmbA[4]: no action
  CTG[11]: (consider) : del if STV[12] <3.0
  DV[13]: del if rev[14] a wave
  $MgSO_4$ before del
- **25+1 – 29+6**
  - <27+0[15] **OR** <800g EFW[1] → Daytime IUT[10] → UmbA[4]: no Rx (alone); CTG[11]: del if STV[12] <3.0; DV[13]: del if absent; $MgSO_4$ before del
  - ≥27+0[15] **AND** >800g EFW[1] → No need for IUT[10] → UmbA[4]: no Rx (alone); CTG[11]: del if STV[12] <3.0; DV[13]: del if absent; $MgSO_4$ before del
- **30+0 – 31+6**
  - <800g EFW[1] → Daytime IUT[10] → UmbA[4]: no Rx (alone); CTG[11]: del if STV[11] <3.0; DV[13]: del if absent; $MgSO_4$ before del
  - ≥800g EFW[1] → No need for IUT[10] → UmbA[4]: no Rx (alone); CTG[11]: del if STV[11] <3.0; DV[13]: del if absent; $MgSO_4$ before del
- **≥32+0**
  ↓
  UmbA[4]: del if AEDF[4]
  CTG[11]: del if STV <3.0
  No $MgSO_4$

NB: preeclampsia often increases rate of deterioration and may necessitate delivery.

Footnotes:

1. EFW: estimated fetal weight
2. AC: abdominal circumference
3. Centile. Use current Trust standard, eg Hadlock, accepting variation. Avoid customised chart as ethnicity likely independent risk factor (see Intergrowth results)
4. UmbA: umbilical artery
5. RI/PI: resistance index/ pulsatility index. Follow current Trust practice as to which
6. AEDF: absent end-diastolic flow
7. CS: caesarean section
8. BP: blood pressure
9. If active treatment requested: Paediatric consultation regarding neonatal care is required. Document any discussion regarding IUT with parents. Consider providing Thames Valley Neonatal Network patient information leaflets if available.
10. IUT: in utero transfer. Where neonatal guidelines require IUT this is designated 'IUT'. Where 'no need for IUT is written, discussion with OUH fetal medicine may be appropriate. This is up to units as within the Thames Valley area many units have fetal medicine expertise. However, IUT may be discussed with any pregnancies at any stage on this guideline according to individual units' or consultants' preference. Non urgent IUT to the OUH for IUGR is normally arranged by calling fetal medicine office (01865 221716) or the fetal medicine consultant (07810 376679)
11. CTG: computerised cardiotocograph. Evidence based tool in severe IUGR
12. STV: short term variability on computerised cardiotocograph
13. DV: ductus venosus
14. 14: Absent/ reversed a wave of ductus venosus. From 26+0w, computerised CTG as effective
15. 15: Note this threshold is <28+0 if DC twin pregnancy

This document takes account of national neonatal guidelines, national fetal medicine guidelines (RCOG Greentop and Specialised Commissioning CRG Service Specifications)