Management of late-onset fetal growth restriction: an evidence based approach

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Objective

International guidelines recommend delivery at or immediately after 37 weeks in small for gestational age (SGA) fetuses mostly because of stillbirth concerns. Differentiating SGA from late-onset fetal growth restriction (FGR) is challenged by the limited prospective evidence to guide management. We prospectively assessed a novel protocol that used evidence based ultrasound criteria to risk stratify women with suspected late FGR into two groups: high-risk with delivery at 37 weeks and low-risk with expectant management until the expected date of delivery.

Methods

This was a prospective analysis from women with a singleton non-anomalous fetus > 32 weeks with any of the following criteria: estimated fetal weight (EFW) <10th centile, 50 centiles decrease of the abdominal circumference (AC) from previous scans, umbilical artery Doppler pulsatility index >95th centile, cerebroplacental ratio <5th centile. Women were stratified into high- or low-risk late FGR. Women in the high-risk group (EFW <3rd centile, or EFW >3rd centile with AC drop or abnormal Dopplers) were delivered at 37 weeks whereas low-risk women were delivered by 41 weeks unless meeting high-risk criteria later on. The primary outcome was adverse neonatal outcome including hypothermia, hypoglycaemia, neonatal unit admission. Secondary outcomes were severe adverse neonatal outcome (cerebral, cardiac or respiratory morbidity, sepsis) and adverse maternal outcome (operative delivery for abnormal fetal heart rate).

Results

Over 18 months (2018 - 2019) 321 women were managed following the new protocol. Adverse neonatal outcome was significantly less common in low-risk (n= 156) compared with high-risk fetuses (n=165): 45 versus 57%, aOR 0.6, 95% confidence intervals (CI): 0.4-0.9, $p<0.05$. There was no significant difference in adverse maternal outcome (20% versus 22%, aOR 0.8, 95%CI: 0.5-1.4) and severe adverse neonatal outcome (3.8% versus 8.5%, aOR 0.5, 95%CI: 0.2-1.3) between low and high-risk group. Women in the low-risk group delivered significantly later compared to women in the high-risk group, 39+5 versus 38+2 days, P <0.001), with a higher birth weight (2840 versus 2558gr, p<0.001).

Conclusion

Appropriate risk stratification of FGR groups was associated with reduced adverse neonatal outcome in the low risk group. In clinical practice a policy of expectantly managing women with late-onset low-risk FGR pregnancies at term could improve short and long-term neurodevelopment and organ maturation. Randomised controlled trials are needed to assess the effect of an evidence based conservative management protocol of late FGR on perinatal morbidity, mortality and long-term neurodevelopment.