



A case of altered MCA Doppler measurements in macrosomia due to Type 1 Diabetes

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Objective

A case report on altered Doppler measurements in macrosomia due to Type 1 Diabetes.

Methods

Doppler measurements were done on a patient with poorly controlled Type 1 Diabetes. She was primiparous and had gotten pregnant following her second cycle of IVF. Her diabetes was controlled with an insulin pump. Her HbA1C was raised prior to pregnancy and as 51mmol/mol at the start of pregnancy. Her diabetes proved to be difficult to control throughout the pregnancy, with fasting blood glucose levels averaging 6.1, and post meal blood glucose levels averaging 7.9.

Results

A scan done at 28 weeks of pregnancy demonstrated mild polyhydramnios with an AC measurement over the 95th centile and the EFW over the 90th centile on a customised growth chart. A repeat growth scan at 32 weeks demonstrated significantly accelerated growth with an AFI of 33.9. A scan for liquor volume showed an increased AFI of 39, and at this point a fetal medicine referral was made to exclude other causes of polyhydramnios. At the fetal medicine scan, growth was markedly accelerated, and there was no evidence of structural abnormality. Umbilical artery dopplers showed a low PI of 0.5. MCA dopplers were also low with a PI of 1.44 and a PSV of 27cm/s. She was delivered 24hours after the scan by Caesarean section for increasingly poor diabetic control and fetal concerns.

Conclusion

Other studies have demonstrated a relationship between reduced umbilical artery PI and macrosomia, however there are limited studies on MCA dopplers in macrosomic fetuses. It is likely that the Doppler changes are a reflection of the hemodynamic changes and this may have implications for the timing of delivery. Further studies are warranted to investigate this finding.