



A case of prenatal thrombosis of the umbilical artery

Forster A, Schauf B

Frauenklinik Bamberg, Bamberg, Germany

Objective

We present a case of suddenly appearing pathological fetal heart rate tracing and reduced fetal movements due to acute thrombosis of one artery of the umbilical cord. A 31-year old woman was admitted to our hospital at 32+1 weeks of gestation with reduced fetal movements during the day. Ultrasound scan registered a fetus of normal size and normal doppler indices in the umbilical artery and MCA. Fetal heart rate tracing was normal, only reduced fetal movements were abnormal. Due to repeated complaint of reduced fetal movements, CTG was performed and showed a non-reassuring pattern, therefore repeated ultrasound examination was carried out. Doppler studies showed a pathological flow in the middle cerebral artery (low PI and RI with normal peak velocity) whereas the umbilical artery was normal. The subsequent CTG's were also with reduced variability, an oxford-CTG was normal. The patient emphasised her concern about the fetal movements so another scan was performed revealing a single umbilical artery and one umbilical vein. Evaluation of history showed a normal 20th week scan with two umbilical arteries.

Methods

This is a case report.

Results

We concluded that the occlusion of one umbilical artery might be the reason for the abrupt reduced movements and new appearing pathological MCA as a sign for centralisation. We performed a cesarean section on the same day. Postnatal pathology and fetal outcome: After delivery the placenta and the umbilical cord were sent to pathology. The umbilical cord showed a clot in one artery, maybe due to an aneurysm. The newborn was healthy, needed mild oxygen support. A few days post delivery, the right femoral blood pressure decreased, oxygen saturation was low, and the pulse of the femoral artery was weak. Duplex ultrasound failed to detect femoral or common iliac artery flow. The MRT angiography showed no blood flow in the iliacal artery (common and external), however, a flow was detected in the femoral artery most likely due to collaterals. We considered that the clot happened prenatally or it was a primary failure in arterial architecture.

Conclusion

In unexplained signs for fetal compromise a normal umbilical waveform, PI and RI does not exclude fetal centralization which sometimes might be due to intrauterine fetal thrombosis. MCA might be pathological and delivery might be mandate.