The role of Oligohydramnios in Delivery Planning of Small Breech Babies at Term

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Objectives
Rising rates of cesarean section (CS) worldwide raise concerns regarding common indications such as breech presentation in term singletons. Study results showed advantages for CS in unselected populations. Criteria to select candidates for a safe trial of labor (TOL) are therefore needed. 2 years ago, we reported a higher significance of Doppler pathology than of estimated fetal weight (EFW) regarding the risk for urgent cesarean delivery. Recently a large Finnish population-based cohort study identified fetal growth restriction (FGR) and oligohydramnios as risk factors for adverse perinatal outcome. We tried to decide the role of oligohydramnios and FGR compared to maternal-fetal Doppler examination in selecting appropriate candidates among this population.

Methods
From 2009 to 2017, 82 term breech babies with birth weight at 10th centile or less underwent a trial of labor at our department. One fetus with complex malformations was excluded from the analysis. Median gestational age was 39+2 weeks, median birthweight 2755g (1980-3110). 73/82 pregnancies had at least one Doppler examination; roughly half had more than one parameter studied (ACM or uterine artery (UtA) in addition to umbilical artery (UA)). In 80/82 cases, amniotic fluid (AF) was documented. Oligohydramnios was defined by single AF pocket (<2cm). In this study, we compared Doppler findings and AF to the obstetrical and neonatal outcomes.

Results
67/82 deliveries (81.7%) were successfully completed vaginally. 15 deliveries (18.3%) had to be ended by timely CS, 11 for signs of fetal distress and 4 for other obstetric indications (footling presentation, FTP). 6 fetuses had shown manifest pathological Doppler findings (2x UA-PI >95%, 4x UtA bilaterally PI >95% with notching). 4/6 had to be delivered by urgent CS. Oligohydramnios was positively correlated with vaginal birth (RR for CS 0.96, PPV 17.6%). 7 babies needed NICU care. All were discharged as healthy. No birth injuries or long-term morbidity were observed.

Conclusions
Doppler ultrasound can improve the safety of vaginal breech delivery by facilitating selection of SGA fetuses with normal umbilical and uterine flow who are by definition not growth restricted and identifies cases at risk better than intrauterine growth.

Cases with clearly pathological findings should be excluded from TOL.

Doppler pathology appears a stronger risk factor for poor outcome than oligohydramnios which on its own should not be an indication for CS.

References