

Ultrasound assessment of the head flexion in occiput posterior fetuses and prediction of rotation to occiput anterior

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Objective. To evaluate the relationship between the fetal attitude in fetuses in occiput posterior (OP) at full cervical dilatation and the chance of rotation to occiput anterior (OA) at birth.

Materials and Methods. Single centre prospective observational study including women with uncomplicated labour and OP position at full cervical dilatation. Eligible cases were submitted to intrapartum ultrasound to confirm the OP and to evaluate the degree of flexion (CCA). At time of delivery, occiput rotation was checked. The primary outcome was delivery in OA position. The secondary outcome was to evaluate the reproducibility of the CCA measurement.

Results. 73 women were included (vaginal delivery was recorded in 80.8%). Rotation to OA position at birth was associated with narrower CCA compared to the cases with persistent OP (44 ± 20 vs 62 ± 22 degrees, $p < 0.01$). The optimal CCA cut-off value discriminating between cases that rotated versus those that did not was 51.5 degrees. This was associated with: 67.3% sensitivity, 79.2% specificity, 97.5% PPV and 48.5% NPV. ICC analysis showed excellent intra- and inter-observer reproducibility of the CCA (0.963, 95% CI 0.910-0.985, $p < 0.01$ and 0.887, 95% CI 0.755-0.948, $p < 0.01$).

Conclusions. Within an unselected cohort of women with fetus in OP position at full cervical dilatation the CCA is associated with an increased chance of rotation to OA position at birth. High intra- and inter-observer agreement of the CCA measurement is demonstrated.

