Clinical versus Ultrasound Assessment of Fetal Head Position in Labor

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Introduction
Intrapartum assessment of fetal head position is essential in the management of labor. A paucity of data exists regarding the accuracy of transvaginal digital assessment of fetal head position in comparison with intrapartum ultrasound as the ‘gold standard’.

Objectives
To compare transvaginal digital examination with transabdominal ultrasound in determining the fetal head position in active stage of labor.

Methods
We prospectively examined 206 women, singleton pregnancy with vertex presentation coming at term in active phase of labor. Abdominal examination was done initially to assess fetal head position by palpating fetal spine and cephalic prominence, followed by transvaginal digital examination after rupture of membranes fetal head position is determined after a uterine contraction, based on sagittal suture and posterior fontanelle. Then transabdominal ultrasound examination was performed to determine fetal head position.

Ultrasonographic depiction of fetal head position was performed utilizing midline intracranial structures (cavum septi pellucid, falx cerebri, thalami and cerebellar hemispheres), and anterior or posterior cranial structures (orbits, nasal bridge and cervical spine). Fetal head position was classified as LOA, LOT, LOP, ROA, ROT, ROP.

Results
The most frequently noted position was LOA (41%). In 78% (162/206) of fetal head positions determined by vaginal examination at <7 cms and 81% (63/77) at >7 cms was consistent with those obtained by suprapubic transabdominal ultrasound (P=0.02).

Conclusion
The accuracy of transvaginal digital examination with transabdominal ultrasound was 78%, it was better by consultants than residents and also after 7 cms cervical dilatation.