THE ASSESSMENT OF THE CERVICAL DILATION USING TRANSPERINEAL ULTRASOUND DURING THE LATENT PHASE OF LABOR

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INTRODUCTION
The measurement of the cervical dilation (CD) using transperineal ultrasound scan (TPUS) is a reliable method which may reduce the number of digital vaginal examinations (DVE) during labor. This technique is well described during the active phase of labor (1).

OBJECTIVES
To detail challenging items faced while measuring the CD transperineally during the latent phase of labor (LPL) and to investigate the relevance of TPUS measurements compared to DVE findings.

METHODS
A prospective study including 43 singleton women with a fetus in cephalic presentation during LPL.
First, transperineal CD measurements were assessed, followed immediately by DVE performed by a different examiner. Both examiners were blinded to each other results.
For each ultrasound CD measurement we reported the technique used to obtain the best image. The placement of the probe showing the landmarks and the level of the measurement (internal or external os) were recorded. Then, we compared TPUS measurements to DVE findings.
Statistical analysis was established using XLSTAT version 2014.4.09 (Addinsoft, New York, NY, USA) and P < 0.05 was considered statistically significant. The Pearson correlation coefficient was used to assess the correlation between the two techniques and Bland–Altman plots were used to study the agreement between TPUS measurements and DVE.

RESULTS
Seventy nine paired TPUS and DVE cervical dilation assessments were performed. In order to obtain the best images, the probe should be placed in the area between the anterior part of the vulva and anus. Knowing that the entire cervical effacement is not achieved, the image of the whole cervix may be the landmark at this stage of labor (figure 1A).
Then, we suggest rotating the probe 90° without losing the cervix from the image in order to visualize the CD. Moreover, the image should not include the bladder to insure that the measurements are at the level of the cervix and not at the level of the inferior uterine area (Figure 1B). Patient’s hips can be propped in order to avoid pubic shadowing. CD measurements during LPL gain to be performed at the level of the internal os rather than the external one. Finally, the suggestion is to use the average of the two visualized diameters of the cervix to assess CD during LPL.

Using these recommendations we obtained a satisfactory correlation between TPUS and DVE findings (R= 0.74, n= 79, p<0.0001). Bland–Altman analysis illustrated a negligible systematic bias (-0.98 mm, 95% CI – 0.72-2.69). 95% limits of agreement were: -12.31 mm to 14.28 mm.

CONCLUSION
Sonographic CD measurement during LPL is reliable and should be performed following a proper technique for this phase.
Further studies have to investigate on which level of the cervix the cervical dilation should be assessed.

REFERENCES