EP03.01 - Inter-class observer reliability in measuring uterocervical angle

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Introduction

Preterm birth is one of the major problems in modern obstetrics. Uterocervical angle is being considered as an adjunct to measuring cervical length in the second trimester in the prediction of preterm delivery. The aim of this study was to determine the ability to accurately measure the angle using standard transvaginal images of the cervix and the reproducibility of this measurement between investigators.

Methods

A retrospective study was conducted on 200 women who attended the Perinatal Ultrasound Department for their fetal anatomy ultrasound between 18 and 22 weeks of gestation. A transvaginal examination is offered to assess the cervical length with this ultrasound. Four independent investigators were asked to measure the uterocervical angle. Retrospective angle measurements were obtained using Viewpoint 4D software. The angle is formed by the cervix and the anterior lower uterine segment (Image 1). The 4 raters were evaluated for consistency of measurement and summarised with an inter-class correlation index (Table 1).

Results

In this analysis there was a high level of agreement with an inter-class correlation index of 0.94. No significant differences were seen between the raters with a Pearson Correlation coefficient ranging from 0.7 to 0.92. Table 1 is the scatter plot matrix which shows the high level of agreement between the investigators.

Conclusion

Our study shows that the measurement of the uterocervical angle is a reproducible and an easily measured variable. We plan to use this observation in a study to assess uterocervical angle for the prediction and identification of preterm delivery within our unit.