

EVALUATION OF ESTABLISHED AND NEW REFERENCE LINES IN THE CONTEXT OF THE STANDARDIZATION OF PERINEAL ULTRASOUND

Hypothesis / aims of study

The purpose of this study was to create a new reference line for perineal ultrasound. We will compare it to the horizontal line by Dietz (Line 1) and the central pubic line by Schaer (Line 2) concerning the rates of possible assessment and the outcome of the reliability analysis.

Study design, materials and methods

A new reference line (Line 3) was generated, being fixed between two hyperechoic contours of the symphysis pubis. Ultrasound volumes of 94 women were analyzed. The rectangular distance from the reference lines to the meatus urethrae internus and the most dependent part of the bladder base was taken. Rates of possible assessment as well as Bland-Altman plots and ICC's for intra-rater reliability were calculated

Results

Line 2 had to be excluded from reliability analysis because of an assessment rate of 11.6% only (Line 1&3: 100%). In most of the cases the ICC of Line 1 was superior to the ICC of Line 3. However, on average this difference was only 0.025.

Interpretation of results

Line 2 evolved as a questionable reference line due to very low rates of possible assessment. Line 3 presented here obtained repeatability parameters comparable to Line 1. Compatibility with the German imaging standard is better with Line 3. Particularly for inexperienced users both lines are superior to Line 2 because of poor visibility of the latter. Inter-rater reliability analysis and validation studies are urgently demanded to confirm our results.

Concluding message

The present study offers important aspects concerning the standardization of perineal ultrasound: The central line by Schaer evolved as a questionable reference line due to very low rates of possible assessment. The new reference line presented here obtained repeatability parameters comparable to the horizontal line by Dietz. There might even be an advantage for the new line when comparing videos from two different occasions. Compatibility with the German imaging standard is better with Line 3. Particularly for inexperienced users both lines are superior to the central line by Schaer because of poor visibility of the latter. As an implementation of a new method should not only be based on intra-rater reliability analysis, inter-rater reliability analysis and validation studies are urgently demanded.

Disclosures

Funding: None **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics not Req'd:** retrospective study **Helsinki:** Yes **Informed Consent:** No