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VALIDATION OF TRANSPERINEAL ULTRASOUND EXAMINATION IN THE EVALUATION OF UROGYNECOLOGICAL PATIENTS

Hypothesis / aims of study

Transperineal pelvic floor ultrasound has been previously described in urogynecological and obstetric patients [1,2]. In this study we attempted to validate the use of transperineal pelvic floor ultrasound in order to evaluate its introduction into our urogynecological practice.

Study design, materials and methods

In a prospective study, 48 consecutive women attending a tertiary urogynecological centre for various symptoms, also underwent transperineal ultrasound. The patients had urogynecological evaluation, which included the completion of a standardized pelvic floor questionnaire, physical examination (prolapse grading according to Baden-Walker classification), and multi-channel urodynamic testing (MMS, Holland). In addition, 2D, 3D and 4D transperineal ultrasound was performed by the same physician (VHE) in supine position and after bladder emptying, using a 4-8 MHz probe (GE Kretz Voluson 730 Expert). Examination was performed at rest, maximal Valsalva, and maximal pelvic floor contraction. Volume datasets were analyzed several weeks to several months after the initial examinations in a blinded fashion (GE Kretz 4D View version 5.0). Statistical analysis was performed using SPSS software.

Results

The analysis included 48 women with a mean age of 56 (range 23-79, median 53). Their main complaints were stress urinary incontinence (17%), urge incontinence (23%), mixed incontinence (25%), pelvic organ prolapse (56%), or other related pelvic floor problems (2.1%). The range of symptoms consisted of 70.8% urgency and frequency, 47.9% nocturia, 41.7% voiding difficulties, 43.8% incomplete emptying sensation, 14.6% fecal incontinence and 20.8% flatus incontinence. The median number of vaginal deliveries per woman was 3 (range 0-6). Physical examination and ultrasound findings are described in Table 1.

Table 1: Pelvic floor defects by physical examination and ultrasound assessment

Grade 2 and 3	Cystocele	Rectocele	Enterocele	Uterine Prolapse
Physical findings	45.8%	27.1%	22.9%	18.7%
Ultrasound findings	31.3%	8.4%	25%	25.1%

Ultrasound examination correlated significantly with physical findings for cystocele and enterocele but not for rectocele (Table 2).

Table 2: Correlation between physical and ultrasound findings (Chi square).

	Cystocele	Rectocele	Enterocele
Pearson's R	0.68	0.40	0.46
Likelihood ratio	40.12	11.21	19.93
Significance (2 sided)	<0.01	0.22	0.01

Interpretation of results

This study is part of ongoing research for validation of the use of transperineal pelvic floor ultrasound and its introduction into urogynecological practice in a tertiary referral unit. We found that this imaging modality correlates well with our physical examination, mainly in the anterior and central compartments. It is possible that small numbers are responsible for the lack of statistical significance in rectocele correlation.

Concluding message

Transperineal pelvic floor ultrasound is a valid modality for assessment of urogynecological patients. The effect of its incorporation into clinical practice on patient management remains to be established.

References

1. BJOG 2006;113:225-230
2. Ultrasound Obstet Gynecol 2004;23:615-625

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HUMAN SUBJECTS: This study was approved by the Human Ethics Research Commiittee, Chaim Sheba Medical Center and followed the Declaration of Helsinki Informed consent was obtained from the patients.