OP20.03 Translабial ultrasound for the diagnosis of urethral diverticula
P. Guichard1, M. Gillor2,1, J. Caudwell-Hall1, H.P. Dietz2
1University of Sydney, Penrith, NSW, Australia; 2Obstetrics and Gynecology, Kaplan Medical Centre, Rehovot, Israel

Objectives: Urethral diverticula (UD) are an uncommon cause of lower urinary tract symptoms in women. There is often significant delay to diagnosis. This study was designed to review ten years of experience with UD diagnosed by 4D translabial ultrasound.

Methods: This was a retrospective review of patients seen between 2008 and 2018. 4121 women were examined by 3D/4D TLUS and urethroscopy with a 0-degree cystoscope. Archived US volumes were analysed in all women with the tentative or final diagnosis of ‘urethral diverticulum’.

Results: Of 4121 women seen during the inclusion period, 25 were found to have a major urethral abnormality on TLUS (0.6%). Of those, 17 had a cystic structure while 8 showed other abnormalities such as multiple hyperechogenic foci (HF). Urethroscopy confirmed a diverticulum in 16; 13 of which had had a cystic structure, and three multiple HF. In the 16 patients with confirmed UD, mean age was 48 (33-70) years, mean parity 2 (0-4). 7/16 (43%) presented with recurrent UTIs; the same number showed an anterior vaginal wall mass on exam. All except one were posterior. Mean maximum diameter was 13.4 (5-24) mm. The UD was simple in 8/13 (62%) and complex (ie. multilocular and/or covering >80% of the urethral circumference) in 5/13. A tract was identified on TLUS in 11/13 (84%).

Conclusions: Translабial ultrasound is a valid non-invasive first-line method for the diagnosis of UD. Incidence is well below 1% in our population. A cystic structure traversing the rhabdosphincter has a high predictive value for the urethrosopic diagnosis of UD. Multiple hyperechogenic foci may indicate the presence of a small diverticulum.

Supporting information can be found in the online version of this abstract

OP20.04 Reproducible study of real-time shear wave elastography in female puborectalis muscle
Y. Wang1, L. Liu2
1Ultrasoundography, Peking University Shenzhen Hospital, Shenzhen, Guangdong, China; 2Peking University Shenzhen Hospital, Shenzhen, China

Objectives: The purpose of this study is to evaluate the repeatability of real-time shear wave elastography in measuring the elastic modulus of puborectalis muscle.

Methods: Study 24 cases of female patients who were examined by perineal ultrasound in our hospital. The young’s modulus (kPa) was displayed by shear wave elastography and its average values were taken. When repeated measurements, we tried to get the same plane, size and location of ROI. IBM SPSS Statistics 20 software was used for statistical analysis, and the measurement data were expressed by mean value standard deviation. Reproducibility was expressed by intra-group correlation coefficient (ICC) and 95% confidence interval (CI).

Results: The repeatability of the young’s modulus of the puborectalis in overall observer measured by SWE was very good (ICC=0.786, 95% CI=0.667–0.879). The internal repeatability of the attachment of puborectalis and inferior pubic ramus(ICC=0.836, 95% CI=0.621–0.934) was better than the internal repeatability of the middle part of the lateral puborectalis (ICC=0.740, 95% CI=0.540–0.899).

Conclusions: In this paper, the internal repeatability of the SWE technique in the resting state to determine the young’s modulus of the puborectalis was studied, and the results showed that the repeatability was good. In the group divided according to location, this paper showed that the repeatability of the attachment of puborectalis and inferior pubic ramus was better than the repeatability of the middle part of the lateral puborectalis.

Supporting information can be found in the online version of this abstract

OP20.05 Abstract withdrawn

OP20.06 A study on the feasibility of the automatic cystocele severity grading in transperineal ultrasound
H. Wang1, S. Wang2
1Shenzhen Second People’s Hospital, Shenzhen, Guangdong, China; 2Ultrasound Department, Shenzhen Second People’s Hospital, Shenzhen, Guangdong, China

Objectives: To investigate the feasibility of the automatic cystocele severity grading in transperineal ultrasound.

Methods: Firstly, we recorded 170 transperineal ultrasound video clips when the female patients performing the Valsalva manoeuvre and divided those clips into training (85 cases) and test group (85 cases) randomly. We then marked the correlation structures of the images from the training group offline. Through machine learning algorithm, the computer had learned and then was able to analysed the marking information, after which the automatic cystocele severity grading software was obtained. And we later ran the software to mark the structures and get the cystocele severity grading in the images from the test group. Meanwhile, 3 doctors was marking the same structures of the same images manually and repeated the process after an interval of more than two weeks. Finally compared the grading results obtained from the software and the 3 doctor measurers.

Results: The grading results of each measurer were of good consistency (κ=0.72–0.78, ICC=0.980–0.990). The grading results between different measurers were of good consistency(κ=0.65–0.75,ICC=0.985 ~ 0.992). The grading results between automatic software and different measurers were of good consistency (κ=0.63–0.67,ICC=0.967 ~ 0.969; r=0.936~0.943).

Conclusions: The automatic cystocele severity grading software is able to identify the correlation structures in the images and reliable to apply the software in pelvic floor ultrasound.

OP20.07 Study on the correlation between diastasis recti and pelvic floor dysfunction using ultrasound
E. Qu1, X. Zhang2
1Department of Ultrasound, Third Affiliated Hospital of Sun Yat-sen University, Guangzhou, China; 2Third Affiliated Hospital of Sun Yat-sen, Guangzhou, China

Objectives: The goal of this study is to examine the ultrasound diagnostic criteria for diastasis recti and investigate the correlation between diastasis recti and pelvic floor dysfunction in postpartum females.

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