OP20.04

Is experience of sonographers sufficient to diagnose deep infiltrating endometriosis and bowel involvement by transvaginal ultrasonography?

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Objectives: Some authors think that transvaginal ultrasonography (TVUS) should be the first-line imaging examination for diagnosing deep infiltrating endometriosis (DIE) and rectal involvement. However, studies on diagnostic accuracy are few and provided by very specialized centers. The aim of the study was to assess and compare the accuracy of TVUS for diagnosing DIE and bowel involvement by trained or untrained sonographers for DIE imaging.

Methods: An observational study of patients with clinical suspicion of DIE was performed between October 2004 and April 2011. For the diagnosis of DIE, TVUS was performed by trained or/and untrained sonographers. Trained sonographers had a theorical and surgical formation followed by self assessment. Patients were defined positive for DIE by surgical and histological diagnosis. Sensibility (Se), specificity (Sp) and area under ROC curve (AUC) were calculated with a 95% confidence interval (CI) for trained and untrained sonographers, for the diagnosis of DIE and rectal involvement, when there was a significant association ($p < 0.05$).

Results: 115 patients were included: 100 (87%) had DIE, and 34 (29.6%) bowel involvement. Seventy patients had TVUS performed by a trained sonographer and 56 by untrained sonographers. For the diagnosis of DIE, trained sonographer had a significant association ($p = 0.02$) with a Se of 58% (95% CI, 46–70), a Sp of 87.5% (95% CI, 63–100), an AUC of 0.73 (95% CI, 0.59–0.87). For untrained sonographers, there was no significant association for the diagnosis of DIE ($p = 0.58$) and the AUC was 0.56 (95% CI (0.52–0.61). For rectal involvement, trained sonographer had a Se of 40% (95% CI, 23–59), a Sp of 93% (95% CI, 86–100) with an AUC of 0.67 (95% CI, 0.56–0.77). None of untrained sonographers diagnosed a bowel involvement while it was present in 26% of their patients (14/54).

Conclusions: TVUS is not sufficient to diagnose deep infiltrating endometriosis and predict bowel involvement, particularly when performed by untrained sonographers.

OP20.05

Three-dimensional ultrasonography and magnetic resonance imaging (MRI) in the diagnosis of deep endometriosis

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Objectives: The aim of the present study was to evaluate the diagnostic accuracy of three-dimensional (3D) ultrasonography in comparison with magnetic resonance imaging (MRI).

Methods: This diagnostic test study included 117 patients scheduled for surgery because of clinical suspicion of deep pelvic endometriosis. Two locations of deep endometriosis were considered: intestinal involvement and other posterior lesions (including vaginal location, rectovaginal septum and uterosacral ligaments). After 3D acquisition, a presumptive diagnosis of the presence and localization of deep endometriosis was performed using virtual navigation. Within 2 months of ultrasonographic scan, all patients were submitted to MRI and these two locations were evaluated.

Results: The prevalence of intestinal involvement and other posterior lesions at surgery was 42.90% and 45.70% respectively. The AUCs for endometriosis of intestinal location and for endometriosis of other posterior locations were similar for both techniques. For the intestinal involvement, the specificity, sensitivity, LR + and LR- were 96.70% (92.10%–100.00%), 91.10% (82.80%–99.40%), 27.333, 0.092, respectively, for 3D ultrasound and 91.70% (84.70%–98.70%), 95.60% (89.50%–100.00%), 11,467 and 0,048, respectively, for MRI. For other posterior locations, the specificity, sensitivity, LR + and LR- were 86.00% (76.90%–95.00%), 85.40% (75.40%–95.40%), 6,086 and 0,170, respectively, for 3D ultrasound and 89.60% (80.90%–98.20%), 87.70% (79.20%–96.20%), 7,295 and 0,119, respectively, for MRI.

Conclusions: Both techniques showed a similar diagnostic accuracy in the diagnosis of deep endometriosis of the posterior compartment.

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Changes in sonographic findings of adenomyosis after treatment with aromatase inhibitor

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Objectives: To investigate the changes in the sonographically detectable alterations of the myometrium caused by adenomyosis after treatment with aromatase inhibitor.

Methods: This prospective study included symptomatic women with adenomyosis. The diagnosis of adenomyosis was suspected on the basis of transvaginal ultrasonography (TVS) and confirmed by magnetic resonance imaging. Patients received oral letrozole (2.5 mg/day, Femara; Novartis Farma) for 6 months. Patients underwent TVS before starting the treatment, after 3 and 6 months of treatment. During TVS the following parameters were examined: uterine diameters and volume, thickening of the transition zone, regularity of the endometrial-myometrial junction, presence and size of myometrial cystic anechoic areas, thickness of uterine wall, asymmetrical myometrial thickening (not cause by the presence of myomas), presence of subendometrial hyperechoic linear striation, parallel shadowing and characteristics of localized adenomyomas.

Results: 34 patients were included in the study; 4 patients (11.8%) discontinued the therapy because of adverse effects. After 3 months of treatment there was a significant decrease in uterine volume ($p < 0.05$); a further decrease was observed after 6 month of treatment ($p < 0.001$ compared with baseline; $p < 0.05$ compared with 3-month treatment; 6-month decrease in uterine volume: 56.2%). The treatment caused a significant decrease in: size of anechoic area ($p < 0.01$), thickness of uterine wall ($p < 0.05$), larger diameter of localized adenomyomas ($p < 0.01$) and total adenomyoma volume ($p < 0.001$, decrease in total adenomyoma volume: 53.7%). The treatment improved pain symptoms.

Conclusions: In patients with adenomyosis, letrozole causes a significant decrease in uterine and adenomyoma volume, which is associated with changes in some ultrasonographic characteristics of adenomyosis.