

Efficacy of Three-Dimensional Transvaginal Sonography in Diagnosis of Uterine Cavity Abnormalities Among Infertile Women: A Cross-Sectional Study

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Abstract

Objectives: To evaluate the efficacy of three-dimensional transvaginal sonography (3D-TVS) in diagnosis of uterine cavity abnormalities among infertile women.

Methods: This was a cross-sectional study at Royan Institute, Tehran, from April 2012 and March 2013. All infertile women who were booked for hysteroscopy during this period of time were recruited in the study. Patients underwent preoperative 3D-TVS by an expert radiologist and hysteroscopy was performed by an expert surgeon. Patient's history, 3D-TVS findings and hysteroscopy results were assessed to collect data. Agreement between sonography findings and hysteroscopy results, sensitivity, specificity, positive and negative predictive values, and efficacy of 3D-TVS in diagnosis of congenital and acquired uterine disorders were calculated by SPSS18 software using Cross-tabs, Kappa test, and other statistic analysis.

Results: Totally, 153 women were recruited in the investigation. Patients aged 30.78 ± 4.79 years in average and the duration of infertility was 4.2 ± 2.91 years among them. Uterine abnormalities were grouped as "congenital" and "acquired". Overall efficacy of 3D TVS in diagnosis of uterine disorders was calculated 92.8% with Kappa value of 82.3, indicating a good agreement between ultrasound findings and hysteroscopy results. Efficacy of 3D TVS in diagnosis of congenital and acquired uterine lesions was calculated 92.1% and 87.6% respectively.

Conclusions: Our study demonstrated that 3D TVS has a good efficacy and reliable agreement with hysteroscopy in diagnosis of uterine lesions among infertile women. Therefore, it can decrease the number of diagnostic hysteroscopies.

Keywords: 3D ultrasound, Uterus, Infertility

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