A COMPARISON BETWEEN TWO-DIMENSIONAL, THREE-DIMENSIONAL ULTRASONOGRAPHY AND HYSTEROSCOPY IN THE DIAGNOSIS OF UTERINE PATHOLOGY

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Objective:
To evaluate the diagnostic accuracy of two-dimensional and three-dimensional transvaginal ultrasonography compared to hysteroscopy in diagnosing uterine abnormalities. In addition, to determine whether the number of diagnostic hysteroscopies can be reduced and replaced by transvaginal sonography examinations.

Method:
In this retrospective study, we summarized data from 89 patients who underwent ultrasound two-dimensional and three-dimensional and hysteroscopy for two main indications: infertility and abnormal uterine bleeding. Sensitivity, specificity, positive and negative predictive values for diagnosing uterine pathology were calculated for each method.

Results and discussion:
Hysteroscopy is very accurate in diagnosing uterine cavity abnormalities. In our study two-dimensional and three-dimensional ultrasound detected 15, respectively 16 uterine cavity abnormalities (submucous myoma, endometrial polyps, uterine congenital anomalies). In the same group of patients, hysteroscopy confirmed 16 cases with uterine anomalies, but supplementary diagnosed 3 cases with uterine synechia. When comparing 3D ultrasound against hysteroscopy we found that 3D has a sensitivity of 84%, a specificity of 98%, positive predictive value 94% and negative predictive value of 95%. When we analyzed different uterine cavity pathologies we observed a high specificity of 3D for polyps, myoma, uterine congenital abnormalities, but a low specificity for uterine synechia.

Conclusion:
Hysteroscopy remains the gold standard for diagnosing uterine cavity anomalies. 3D ultrasound has great sensitivity and specificity for uterine cavity anomalies and should be used as a primary screening tool. 3D ultrasound has a low specificity for uterine synechia, but a high specificity for uterine congenital anomalies.