3D ULTRASOUND VERSUS OFFICE HYSTEROSCOPY IN UTERINE CAVITY ASSESSMENT IN CASES OF UNEXPLAINED INFERTILITY

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INTRODUCTION

Evaluation of the uterine cavity is an important step in the investigation of infertile women. Hysteroscopy is considered the gold standard diagnostic modality and is invasive; therefore, an investigation that overcomes its limitations is needed. 3D transvaginal ultrasound (3D TVS) can non-invasively visualize uterine morphology and simultaneously record all three imaging planes, an alternative to hysteroscopy.

AIM OF THE WORK

The aim of this study was to compare the diagnostic accuracy between 3D ultrasound and office hysteroscopy to evaluate uterine cavity in cases of unexplained infertility

PATIENTS AND METHODS

This study was carried out on 80 infertile female patients suffering for unexplained infertility recruited from the infertility clinic of El- Shatby University Maternity Hospital between April 2021 to October 2021. All cases underwent transvaginal ultrasound and the uterus was examined in longitudinal and transverse plane (2D and 3D transvaginal ultrasound), and office hysteroscopy examination was done for all cases.

RESULTS

In Hysteroscopy, there were 51.3% with Overall abnormality, 18.8 % with Endometrial Polyp, 10.0% with Submucous myoma, 7.5% with Adhesions, 8.8% with Chronic endometritis, 2.5 % with Uterine abnormality, 2.5% with ostia abnormality, 1.3% with Adenomysis.
In 3D/US, there were 33.8% with Overall abnormality, 13.8 % with Endometrial Polyp, 10.0% with Submucous myoma, 3.8% with Adhesions, 2.5% with Chronic endometritis, 2.5 % with Uterine abnormality, 1.3% with Adenomysis. 3D-TVS missed the diagnosis of 4 cases of endometrial polyps, 5 cases of chronic endometritis, 3 cases of adhesions, 2 cases of ostia abnormality but could successfully diagnose all cases of submucous myoma, uterine anomalies and adenomyosis.
In Overall Abnormal findings, sensitivity of 3D transvaginal ultrasonography was 63.41%, 97.44% specificity, 96.30% PPV, 71.70% NPV and 80% diagnostic accuracy.

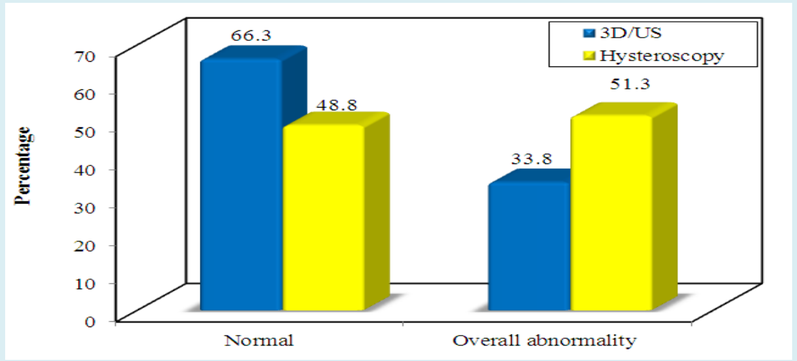

Figure 1: The differences between 3D transvaginal Ultrasonography and Hysteroscopy among all the studied cases.

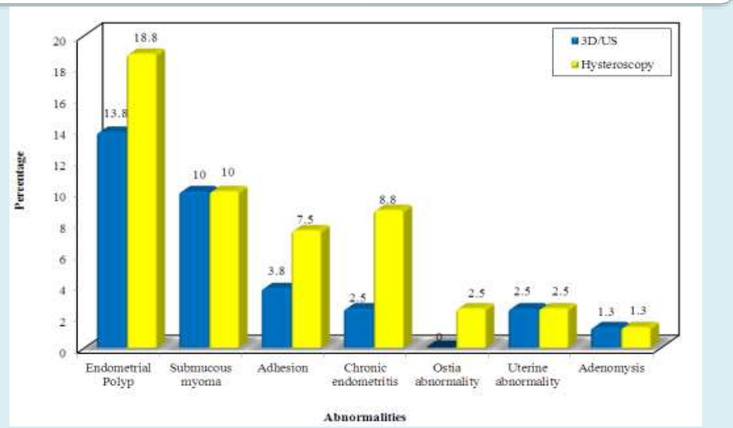

Figure 2: The differences between 3D transvaginal Ultrasonography and Hysteroscopy among all the studied cases abnormalities.

CONCLUSION

The routine use of transvaginal ultrasonography (2D and 3D) for the diagnosis of uterine cavity abnormalities is satisfactory and is therefore becoming an essential tool in the investigation of infertile patients. Hysteroscopy is the gold standard for examining the uterine cavity and should be used to confirm the results of transvaginal ultrasonography and when TVS gives suspicious results.