Correlational Study of O-RADS Scoring System in Ultrasound of Ovarian Masses with Histopathology

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Abstract

Background: Accurate characterization of ovarian masses is essential for appropriate clinical management. The Ovarian-Adnexal Reporting and Data System (O-RADS) ultrasound scoring system provides standardized risk stratification of adnexal lesions.

Objectives: To characterize ovarian masses using the O-RADS ultrasound scoring system and to correlate O-RADS scores with histopathological findings for differentiation of benign and malignant lesions.

Materials and Methods: This prospective study was conducted in the Department of Radiodiagnosis at Dr. BVP Rural Medical College, Loni. Patients of all age groups with ovarian masses detected on ultrasound and who subsequently underwent histopathological examination were included. Ovarian lesions were scored using the O-RADS ultrasound risk stratification system. Histopathology served as the reference standard. Statistical analysis included descriptive statistics and ROC curve analysis.

Results: A total of 33 patients were included. Histopathology revealed 21 benign (63.6%), 2 borderline (6.1%), and 10 malignant (30.3%) lesions. O-RADS ultrasound scoring differentiated benign from malignant lesions in 90.9% of cases. Using a cut-off score greater than 4, sensitivity and specificity for predicting malignancy were 80.0% and 100.0% respectively, which was statistically significant ($p < 0.001$).

Conclusion: The O-RADS ultrasound scoring system is a reliable and sensitive tool for risk stratification of ovarian masses and correlates well with histopathological findings.

Keywords: O-RADS, ovarian masses, ultrasound, histopathology, adnexal lesions

Introduction

Ovarian masses are among the most common gynecological problems encountered in women of all age groups, ranging from functional cysts to aggressive malignant neoplasms. Ovarian cancer is the fifth leading cause of cancer-related mortality among women. Ultrasound serves as the first-line imaging modality for evaluation of adnexal masses due to its accessibility and effectiveness.

Materials and Methods

This prospective study was conducted in the Department of Radiodiagnosis at Dr. BVP Rural Medical College, Loni. Patients of all age groups with ovarian masses detected on ultrasound and who underwent histopathological examination were included. Ovarian masses were classified using the O-RADS ultrasound scoring system. Histopathological examination was considered the gold standard.

Results

Among 33 patients, 20 were premenopausal, 1 post-hysterectomy, and 12 postmenopausal. Based on histopathology, 21 lesions were benign, 2 borderline, and 10 malignant. O-RADS scoring showed high diagnostic accuracy in differentiating benign and malignant lesions.

Discussion

Accurate preoperative characterization of ovarian masses is critical for determining appropriate management. The O-RADS system standardizes ultrasound reporting and improves diagnostic confidence. Our study demonstrated high sensitivity and specificity of O-RADS in predicting malignancy.

Conclusion

O-RADS ultrasound scoring is an effective tool for stratifying the risk of malignancy in ovarian masses and shows strong correlation with histopathological findings.

References

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