

Diagnostic accuracy of gynecology imaging reporting and data system in evaluation of adnexal lesions

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Background: Considering the increasing incidence rate of ovarian cancer in worldwide and the utility of Gynecologic Imaging Reporting and Data System (GI-RADS) in diagnosing malignant adnexal lesions such as ovarian cancer, we aimed to evaluate the diagnostic performance of this reporting system in differentiating between malignant and benign adnexal lesions. **Materials and Methods:** In this cross-sectional study, women with suspected adnexal lesions were enrolled. For differentiating of malignant adnexal lesions, Grade II and III of GI-RADS system were classified as low risk for malignancy and Grades IV and V as high risk. Results of histopathologic diagnosis were compared with the results of the mentioned GI-RADS system classification, and the diagnosed accuracy of the system was determined. Patients who did not have histopathologic diagnosis were followed up. **Results:** In this study, 197 women with suspected adnexal lesions were evaluated. Frequency of GI-RADS II, III, IV, and V were 34.5% (69 cases), 38.0% (76 cases), 19.5% (39 cases), and 6.5% (13 cases), respectively. According to the low- and high-risk classification of GI-RADS, 72.5% were classified as GI-RADS II and III and 26% as GI-RADS IV and V, respectively. Definitive histopathologic diagnosis was reported for 158 cases. Histopathologic evaluation indicated that 12 (7.6%) of the masses were malignant and 146 (92.6%) were benign. Comparing with the histopathologic diagnosis, the GI-RADS system sensitivity, specificity, positive predictive value, negative predictive value, positive likelihood ratio (LR), and negative LR were 91.6%, 80.82%, 28.2%, 99.1%, 4.77, and 0.10, respectively. The accuracy of the scoring system was 81.64%. **Conclusion:** Our findings indicated that using GI-RADS, we could quantify the risk of malignancy by such a structured as well as simple reporting system so that the system could be useful for clinicians for performing an appropriate clinical management.

Key words: Adnexal diseases, ovarian neoplasms, ultrasonography

How to cite this article: Behnamfar F, Adibi A, Khadra H, Moradi M. Diagnostic accuracy of gynecology imaging reporting and data system in evaluation of adnexal lesions. *J Res Med Sci* 2019;24:57.

INTRODUCTION

Adnexal lesions are one of the common gynecologic problems in females of all ages. The etiology of the lesions could be benign such as normal luteal cysts, tubo-ovarian abscess, polycystic ovaries, or malignant including ovarian carcinoma, metastasis, cyst adenocarcinoma and sarcoma.^[1] It is estimated that the lifetime risk of surgical evaluation of adnexal lesions for a woman is 5%–10%.^[2]

Considering that there is no noninvasive diagnostic tool for diagnosis of ovarian cancer, the most important

approach in the evaluation of adnexal lesions is excluding malignancy.^[3] Though the prevalence of ovarian cancer is not high and it consists 3% of all cancers in women, it is associated with higher rate of mortality.^[4]

Transvaginal and transabdominal ultrasonography are the primary radiologic tools for evaluation of the adnexal lesions. It is a safe and low-cost imaging method for differentiation of benign and malignant lesions with appropriate sensitivity and specificity rate (90%–93%).^[5,6]

Evidences indicated that the presence of some ultrasonographic features such as thick septations,

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Access this article online	
Quick Response Code: 	Website: www.jmsjournal.net
	DOI: 10.4103/jrms.JRMS_608_18

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Received: 04-10-2018; **Revised:** 03-01-2019; **Accepted:** 16-01-2019

