

**PERFORMA DIAGNOSTIK OVARIAN-ADNEXAL REPORTING AND DATA SYSTEM
(O-RADS) MRI DALAM MEMBEDAKAN LESI JINAK DAN GANAS OVARIUM
DI RSUP DR SARDJITO**

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INTISARI

Latar Belakang : Penegakan diagnosis massa ovarium sampai saat ini masih menjadi tantangan dalam praktek klinis. Sebagian besar massa ovarium ini merupakan lesi jinak dan dapat ditatalaksana konservatif. Adapun pada kasus keganasan sering terdiagnosis dalam stadium lanjut dengan tingkat mortalitas yang tinggi. Pemeriksaan ultrasonografi sebagai lini pertama pencitraan mempunyai keterbatasan dalam stratifikasi resiko lesi *indeterminate* maupun karakterisasi lesi ovarium ukuran besar. Tidak direkomendasikan biopsi perkutan massa ovarium karena resiko *upstaging* penyebaran akibat rupturnya massa. Pada tahun 2020 *American College of Radiology* memperkenalkan *Ovarian-Adnexal Reporting and Data System Magnetic Resonance Imaging (O-RADS MRI)* yang dalam aplikasinya mampu meningkatkan akurasi karakterisasi lesi dan meningkatkan komunikasi efektif klinisi dan ahli radiologi.

Tujuan : Penelitian ini bertujuan untuk mengetahui performa diagnosis ACR O-RADS MRI dalam membedakan lesi ganas dan jinak massa ovarium.

Metode : Penelitian *cross sectional* dengan data sekunder pasien dengan massa ovarium yang menjalani pemeriksaan MRI pelvis kontras dan pemeriksaan patologi anatomi pasca operasi di RSUP Dr Sardjito Yogyakarta periode Desember 2021 hingga Desember 2023. Seluruh data yang memenuhi kriteria inklusi diambil kemudian dilakukan analisis performa diagnosis meliputi sensitivitas, spesifisitas, *positive predictive value* dan *negative predictive value* serta analisis karakter subyek dan fitur radiologis MRI terhadap hasil patologi anatomi.

Hasil: Penelitian ini melibatkan 76 subyek dengan keterangan klinis massa ovarium, median usia 41 tahun, hasil patologi jinak sebanyak 37 dan ganas 39. Terdapat perbedaan yang bermakna secara statistik pada usia dan status menopause kelompok patologi anatomi jinak dan ganas ovarium, sedangkan riwayat paritas, riwayat penggunaan kontrasepsi hormonal, riwayat kanker payudara pada keluarga dan usia *menarche* tidak bermakna secara statistik. Pada penelitian ini didapatkan O-RADS MRI mempunyai sensitivitas 92.3%, spesifisitas 86.5%, *positive predictive value* 87.8 %, *negative predictive value* 91.4 %, akurasi 89.5 % dan AUC 0.950. Fitur radiologi jaringan solid yang menyangat pasca kontras, *high DWI signal (bright)*, *DWI restricted*, fitur implantasi tumor pada peritoneum, ascites, jaringan atau komponen solid intra kista yang membentuk gambaran mural nodul, proyeksi papiler, kista multilokuler, komposisi kista *serous*, *mucinous* dan *endometriotic* bermakna secara statistik terhadap hasil patologi anatomi ($p < 0.05$).

Kesimpulan: ACR O-RADS MRI mempunyai performa diagnostik yang sangat baik dalam membedakan lesi jinak dan ganas ovarium. Usia, status menopause dan fitur radiologi berupa jaringan solid yang menyangat pasca kontras, *high DWI signal (bright)*, *DWI restricted*, fitur implantasi tumor pada peritoneum, ascites, jaringan atau komponen solid intra kista yang membentuk gambaran mural nodul, proyeksi papiler, kista multilokuler, komposisi kista *serous*, *mucinous* dan *endometriotic* mempunyai signifikansi secara statistik terhadap hasil patologi anatomi.

Kata Kunci : Massa ovarium, O-RADS MRI, performa diagnostik

**DIAGNOSTIC PERFORMANCE OF OVARIAN-ADNEXAL REPORTING AND DATA
SYSTEM (O-RADS) MRI IN DIFFERENTIATING BENIGN AND MALIGNANT OVARIAN
LESION IN SARDJITO GENERAL HOSPITAL**

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ABSTRACT

Background: Diagnosing ovarian masses is still challenging. Most ovarian masses are benign lesions that can be managed conservatively. In cases of malignancy mortality rate is high. Ultrasound examination as the first line of imaging has limitations in the risk stratification of indeterminate lesions and the characterization of large ovarian lesions. Percutaneous biopsy of ovarian lesions is not recommended because of the risk of upstaging spread due to rupture of the mass. In 2020, the American College of Radiology introduced Ovarian-Adnexal Reporting and Data System Magnetic Resonance Imaging (O-RADS MRI), which, in its application, is able to increase the accuracy of lesion characterization and improve effective communication between clinicians and radiologists.

Objective: This study aims to determine the diagnostic performance of ACR O-RADS MRI in differentiating malignant and benign ovarian masses.

Methods: Cross-sectional study with secondary data on patients with ovarian masses who underwent contrast pelvic MRI examination and histopathology examination after operation at Dr. Sardjito Yogyakarta General Hospital for the period December 2021 to December 2023. All data that met the inclusion criteria was taken and then analyzed for diagnostic performance, including sensitivity, specificity, positive predictive value, and negative predictive value.

Result : This study involved 76 subjects with ovarian masses, median age were 41 years, 37 benign pathology results and 39 malignant. There were statistically significant differences in age and menopausal status in the benign and malignant ovarian anatomical pathology groups, while history of parity, history of hormonal contraceptive use, family history of breast cancer and age at menarche were not statistically significant.. In this study, O-RADS MRI had a sensitivity of 92.3%, specificity of 86.5%, positive predictive value of 87.8%, negative predictive value of 91.4%, accuracy of 89.5% and AUC of 0.950. Radiological features of solid tissue that are enhanced after contrast, high DWI signal (bright), DWI restricted, tumor implantation to the peritoneum, ascites, intra-cystic solid tissue or components that form a mural nodules, papillary projections, multilocular cysts, serous cyst, mucinous cyst composition and endometriotic were statistically significant on anatomical pathology results ($p < 0.05$).

Conclusion : ACR O-RADS MRI has excellent diagnostic performance in differentiating benign and malignant ovarian lesions. Age, menopausal status and radiological features include solid tissue that enhanced after contrast, high DWI signal (bright), DWI restricted, tumor implantation in the peritoneum, ascites, solid tissue or components that form mural nodules, papillary projections, multilocular cysts, serous, mucinous and endometriotic cyst composition have statistical significance on the results of pathology.

Keywords: ovarian mass, O-RADS MRI, diagnostic performance