

## KORELASI SKOR ACR O-RADS MRI MASSA OVARIUM DAN FITUR RADIOLOGI DENGAN KADAR CA-125 SERUM

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### INTISARI

**Latar Belakang :** Penggunaan MRI dalam diagnosis kanker ovarium semakin meningkat. Salah satu sistem pelaporan MRI yang direkomendasikan adalah American College of Radiology O-RADS MRI (skor 1 hingga 5) dimana skor 1 merupakan ovarium normal, skor 2 hampir pasti jinak (PPV <0,5%), skor 3 resiko rendah (PPV sekitar 5%), skor 4 resiko menengah (PPV sekitar 50%), dan O-RADS MRI skor 5 adalah resiko tinggi (PPV keganasan sekitar 90 %). Dalam pelaporannya, beberapa fitur radiologis yang digunakan untuk mengevaluasi keganasan antara lain jaringan padat yang menyangat post pemberian kontras, implantasi peritoneal, ascites, komponen lemak, kista multilokuler, *bright* DWI dan DWI *restricted*. Adapun pemeriksaan CA-125 sebagai tumor marker kanker ovarium menjadi salah satu penunjang diagnosis yang sering diperiksa dalam praktek klinis.

**Tujuan :** Penelitian ini bertujuan untuk mengetahui korelasi skor ACR O-RADS MRI dan fitur radiologi gambaran pada MRI dengan kadar CA-125

**Metode :** Penelitian *cross sectional* dengan data sekunder pasien dengan massa ovarium yang menjalani pemeriksaan MRI pelvis kontras, pemeriksaan patologi anatomi dan kadar CA-125 di RSUP Dr Sardjito Yogyakarta periode Desember 2021 hingga Desember 2023. Seluruh data yang memenuhi kriteria inklusi diambil kemudian dilakukan analisis statistik dengan uji korelasi Spearman.

**Hasil :** Dari 58 subyek penelitian mempunyai median usia 43 tahun, rentang usia 20- 66 tahun. Sebagian besar subyek penelitian yaitu 40 subyek ( 70,2 %) belum menopause, 30 subyek ( 51.7 %) belum pernah melahirkan, 53 subyek ( 91.4%) tidak pernah menggunakan alat kontrasepsi hormonal, dan 53 subyek ( 91.4%) tidak merokok. Pada uji *Spearman* terdapat hubungan lemah antara skor O-RADS MRI dengan kadar CA-125 (  $p < 0.05$ ,  $R : -0.323$ ), terdapat korelasi lemah antara fitur *bright* DWI dengan kadar CA-125 (  $p < 0.05$ ,  $R : 0.276$ ) dan terdapat korelasi lemah antara hasil patologi anatomi dan kadar CA-125 (  $p < 0.05$ ,  $R : 0.314$ ). Terdapat korelasi fitur radiologi (jaringan solid yang menyangat pasca pemberian kontras, DWI *bright*, DWI *restricted*, implantasi peritoneum, ascites, mural nodul, proyeksi papiler, kista multilokuler) dengan hasil patologi anatomi.

**Kesimpulan :** Terdapat korelasi skor O-RADS MRI dengan kadar CA-125, terdapat korelasi fitur *bright* DWI dengan kadar CA-125, terdapat korelasi hasil patologi anatomi dan kadar CA-125 serta terdapat korelasi pada fitur radiologi dengan hasil patologi anatomi.

**Kata Kunci :** Kanker ovarium, ACR O-RADS MRI, Fitur radiologi, CA-125, Patologi Anatomi

## ***CORRELATION OF OVARIAN MASS ACR O-RADS MRI SCORE AND RADIOLOGIC FEATURE WITH SERUM CA-125 LEVELS***

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### ***ABSTRACT***

**Background:** Application of MRI for ovarian cancer diagnosis is increasing. One of recommended MRI reporting system is American College of Radiology O-RADS MRI. Ovarian mass where score 1 is a normal ovary, score 2 is almost certainly benign (PPV <0.5%), score 3 is low risk (PPV around 5%), score 4 is medium risk (PPV around 50%), and O-RADS MRI score 5 is high risk (PPV of malignancy around 90%). Several radiological features used to evaluate malignancy include solid component that enhanced after contrast administration, peritoneal implantation, ascites, fatty components, multilocular cysts, bright DWI and DWI restricted. CA-125 examination as a tumor marker for ovarian cancer as diagnostic support often examined in clinical practice.

**Objective:** This study aims to determine the correlation of O-RADS MRI score and radiologic feature with the CA-125 level

**Methods:** Cross-sectional study with secondary data on patients with ovarian masses who underwent contrast pelvic MRI examination, CA-125 level and anatomical pathology examination 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 with Spearman correlation test.

**Results :** From 58 subjects, the median age was 43 years, the age range was 20-66 years. Most of the research subjects, 40 subjects (70.2%) had not yet had menopause, 30 subjects (51.7%) had never given birth, 53 subjects (91.4%) had never used hormonal contraceptives, and 53 subjects (91.4%) did not smoke. In the Spearman test, there was a weak correlation between O-RADS MRI scores and CA-125 levels ( $p < 0.05$ ,  $R: -0.323$ ), there was a weak correlation between DWI bright features and CA-125 levels ( $p < 0.05$ ,  $R: 0.276$ ) and there was a weak correlation between anatomical pathology results and CA-125 levels ( $p < 0.05$ ,  $R: 0.314$ ). There is a correlation between radiological features (enhanced solid tissue after contrast administration, DWI bright, DWI restricted, peritoneal implantation, ascites, mural nodules, papillary projections, multilocular cysts) with anatomical pathology results.

**Conclusion:** There is a correlation between O-RADS MRI scores and CA-125 levels, there is a correlation between bright DWI features and CA-125 levels, there is a correlation between anatomical pathology results and CA-125 levels and there is a correlation between radiological features and anatomical pathology results.

**Keywords:** ovarian mass, ACR O-RADS MRI, Radiologic feature, CA-125, histopathology