

KADAR KALSIMUM, HE4, CA125 SERUM SEBAGAI FAKTOR RISIKO DERAJAT KEPARAHAN KARSINOMA OVARIUM

ABSTRAK

Latar Belakang: Berbagai penanda telah diidentifikasi untuk menilai tingkat keparahan dan prognosis karsinoma ini, termasuk kalsium serum, HE4, dan CA125. Kalsium berperan dalam regulasi proliferasi dan metastasis sel karsinoma. HE4 telah terbukti efektif dalam diagnosis dan deteksi kekambuhan penyakit. CA125 banyak digunakan sebagai petanda tumor, namun sensitivitasnya terbatas pada tahap awal. Penelitian ini bertujuan untuk mengevaluasi kadar kalsium, HE4, dan CA 125 serum sebagai faktor risiko derajat keparahan karsinoma ovarium.

Metoda: Penelitian observasional analitik *cross sectional* melibatkan pasien dengan karsinoma ovarium di RSUP dr. Kariadi Semarang yang dilakukan pada bulan Juli sampai September 2024. Sampel darah diambil untuk memeriksa kadar kalsium, HE4, dan CA 125 serum. Analisis parameter laboratorium diantara pasien dengan derajat keparahan berbeda dilakukan, dan kurva *receiver operating characteristic* (ROC) digunakan untuk menilai rasio prevalensi dari kadar kalsium, HE4, dan CA125 serum terhadap derajat keparahan karsinoma ovarium.

Hasil: Kadar HE4 dan CA 125 serum ditemukan berbeda signifikan pada subjek dengan stadium awal dan stadium lanjut. Kadar kalsium diantara kelompok subjek ditemukan sama. Nilai *cut off* kadar HE4 sebesar 383,66 pmol/L ($p=0,018$; rasio prevalensi (RP) 1,89; CI 95% 1,14-3,16), CA 125 86,71 U/mL ($p=0,005$; RP 2,14; CI 95% 1,26-3,63) menunjukkan risiko derajat keparahan karsinoma ovarium.

Kesimpulan: Kadar HE4 $\geq 383,66$ berisiko 1,89 kali dan kadar CA 125 $\geq 86,71$ berisiko 2,14 kali terhadap derajat keparahan karsinoma ovarium

Kata Kunci: karsinoma ovarium, kalsium serum, HE4, CA125, derajat keparahan

SERUM CALCIUM, HE4, CA125 LEVELS AS RISK FACTORS FOR OVARIAN CARCINOMA SEVERITY

ABSTRACT

Background: Various markers have been identified to assess the severity and prognosis of this carcinoma, including serum calcium, HE4, and CA125. Calcium plays a role in the regulation of proliferation and metastasis of carcinoma cells. HE4 has been shown to be effective in the diagnosis and detection of disease recurrence. CA125 is widely used as a marker of tumors, but its sensitivity is limited to the early stages. This study aims to evaluate serum calcium, HE4, and CA 125 levels as risk factors for ovarian carcinoma severity.

Methods: A cross-sectional analytical observational study involving patients with ovarian carcinoma at dr. Kariadi Semarang Hospital which was conducted from July to September 2024. Blood samples were taken to check serum levels of calcium, HE4, and CA 125. Analysis of laboratory parameters among patients of different severity was performed, and the receiver operating characteristic (ROC) curve was used to assess the prevalence ratio of serum calcium, HE4, and CA125 levels to the severity of ovarian carcinoma.

Results: Serum HE4 and CA 125 levels were found to be significantly different in subjects with early and advanced stages. Calcium levels among the subject groups were found to be the same. The cut off value of HE4 level was 383.66 pmol/L ($p=0.018$; prevalence ratio (RP) 1.89; CI 95% 1.14-3.16), CA 125 86.71 U/mL ($p=0.005$; IDR 2.14; A 95% CI of 1.26-3.63) indicates a risk of ovarian carcinoma severity.

Conclusion: HE4 levels ≥ 383.66 are 1.89 times at risk and CA levels ≥ 86.71 are 2.14 times at risk of ovarian carcinoma severity

Keywords: ovarian carcinoma, serum calcium, HE4, CA125, severity