

## INTISARI

**Latar Belakang:** Inflamasi kronis merupakan suatu penanda perkembangan kanker yang perlu dievaluasi pada kanker kolorektal. *C-reactive protein* dan albumin sebagai penanda inflamasi belum dapat untuk menggambarkan status inflamasi pada berbagai stadium. Peningkatan derajat inflamasi menstimulasi CRP dan menekan sintesis albumin sehingga rasio CRP/albumin akan menggambarkan perubahan derajat inflamasi ini. Namun belum ada penelitian yang mengevaluasi nilai CAR pada berbagai stadium kanker kolorektal di RSUP Dr. Sardjito.

**Tujuan:** Mengevaluasi nilai CAR pada berbagai stadium kanker kolorektal di RSUP Dr. Sardjito

**Metode:** Penelitian ini merupakan penelitian *cross sectional*. Penelitian ini melibatkan pasien terdiagnosis kanker kolorektal pada berbagai stadium yang melakukan pemeriksaan laboratorium di Pusat Kanker Terpadu RSUP Dr. Sardjito Yogyakarta dan bersedia diperiksa kadar CRP dan albumin. Dilakukan perhitungan rasio CRP/albumin. Uji beda nilai CAR pada berbagai stadium dengan nilai  $p < 0,05$  ditetapkan bermakna secara statistik.

**Hasil:** Dari 85 subjek penelitian ini didapatkan perbedaan nilai CAR yang bermakna pada berbagai stadium ( $p = 0,004$ ). Pasien stadium I, II, dan III memiliki median CAR lebih rendah dibandingkan stadium IV (0,49; 0,52; 0,75 vs 2,22). Terdapat 19 subjek yang mengalami metastasis jauh, dengan 16 subjek mengalami metastasis pada 1 organ dan 3 subjek  $> 1$  organ. Metastasis jauh pada pasien kanker kolorektal terjadi paling banyak di hati yaitu 12 (54,6%), diikuti paru-paru 4 (18,2%), tulang 4 (18,2%), peritoneum 1 (4,5%) dan organ lainnya 1 (4,5%). Terdapat perbedaan CAR yang bermakna secara statistik antara subjek yang mengalami metastasis jauh dan tidak ( $p = 0,001$ ).

**Simpulan:** Nilai CAR pada berbagai stadium kanker kolorektal berbeda bermakna pada stadium IV (dengan metastasis jauh) dibandingkan stadium lainnya.

**Kata Kunci:** CAR, kanker kolorektal, inflamasi, evaluasi

## ABSTRACT

**Background:** Chronic inflammation is a marker of cancer development that needs to be evaluated in colorectal cancer. C-reactive protein and albumin as markers of inflammation are not yet able to describe the inflammatory status at various stages. An increase in the degree of inflammation stimulates CRP and suppresses albumin synthesis so that the CRP/albumin ratio will reflect changes in the degree of inflammation. However, there has been no research evaluating the value of CAR at various stages of colorectal cancer at RSUP Dr. Sardjito.

**Objective:** To evaluate the value of CAR in various stages of colorectal cancer at RSUP Dr. Sardjito

**Method:** This research is a cross sectional study. This research involved patients diagnosed with colorectal cancer at various stages who underwent laboratory examinations at the Integrated Cancer Center of RSUP Dr. Sardjito Yogyakarta and is willing to have CRP and albumin levels checked. The CRP/albumin ratio was calculated. Tests for differences in CAR levels at various stages with a p value  $<0.05$  were determined to be statistically significant.

**Results:** Of the 85 subjects in this study, significant differences in CAR values were found at various stages ( $p = 0.004$ ). Stage I, II, and III patients had a lower median CAR than stage IV (0.49; 0.52; 0.75 vs 2.22). There were 19 subjects who experienced distant metastases, with 16 subjects experiencing metastases in 1 organ and 3 subjects in  $>1$  organs. Distant metastases in colorectal cancer patients occurred most often in the liver 12 (54.6%), followed by the lungs 4 (18.2%), bones 4 (18.2%), peritoneum 1 (4.5%) and organs others 1 (4.5%). There was a statistically significant difference in CAR between subjects who experienced distant metastases and those who did not ( $p = 0.001$ ).

**Conclusion:** CAR values at various stages of colorectal cancer are significantly different at stage IV (with distant metastases) compared to other stages.

**Keywords:** CAR, colorectal cancer, inflammation, evaluation