

INTISARI

Latar Belakang: Kanker payudara merupakan keganasan jaringan payudara yang berasal dari epitel duktus maupun lobulus. Faktor yang mempengaruhi terjadinya progresivitas kanker payudara antara lain inflamasi kronis yang merupakan suatu petanda perkembangan kanker yang perlu dimonitor. Penanda inflamasi yang dapat digunakan untuk memantau adanya inflamasi antara lain adalah *C-Reactive Protein* (CRP) dan albumin. Penanda inflamasi tersebut pada kanker payudara belum banyak diteliti untuk menilai progresivitasnya.

Tujuan: Penelitian ini bertujuan untuk mengevaluasi Kadar CRP dan albumin pada berbagai derajat kanker payudara di RSUP Dr. Sardjito pada 1 bulan, 3 bulan, dan 6 bulan pemantauan laboratorium.

Metode: Penelitian ini merupakan penelitian observasional prospektif longitudinal. Penelitian ini melibatkan pasien terdiagnosis kanker payudara berbagai stadium yang melakukan pemeriksaan laboratorium di Pusat Kanker Terpadu RSUP Dr. Sardjito Yogyakarta dan bersedia diperiksa kadar CRP dan albumin serial yaitu saat inklusi, pemantauan 3 dan 6 bulan. Selanjutnya dilakukan uji beda kadar CRP dan albumin pada berbagai stadium pada setiap waktu pemantauan dengan nilai $p < 0,05$ ditetapkan bermakna secara statistik.

Hasil: Terdapat 53 subjek kanker payudara, stadium I (1,9%), stadium II (22,6%), stadium III (35,8%), dan stadium IV (39,6%). Tidak didapatkan perbedaan yang bermakna kadar CRP, albumin dan CAR pada berbagai stadium saat waktu pemantauan bulan ke 1, 3, dan 6 ($p > 0,05$). Subjek dengan metastasis sebanyak 21 subjek (39,6%), dengan organ metastasis terbanyak yaitu tulang (52,4%). Terdapat perbedaan kadar CRP yang bermakna pada berbagai stadium berdasarkan adanya metastasis pada bulan ke 1 ($p = 0,048$) dan bulan ke 3 ($p = 0,018$). Terdapat perbedaan CAR yang bermakna berdasarkan adanya metastasis pada bulan ke 1 ($p = 0,046$) dan bulan ke 3 ($p = 0,024$). Pada bulan ke 1 pasien yang tidak metastasis memiliki kadar CRP yang lebih rendah dibandingkan yang metastasis (2,41 vs 3,20) dan bulan ke 3 (1,65 vs 3,42). Tidak didapatkan perbedaan yang bermakna kadar CRP, CAR pada bulan ke 6 ($p = 0,964$) dan kadar albumin bulan ke 1, 3 dan 6 ($p > 0,05$). Subjek dengan riwayat terapi operasi dan kemoterapi sebanyak 32 subjek (60,4%) dan terapi operasi, kemoterapi dan radioterapi sebanyak 21 subjek (39,6%). Tidak didapatkan perbedaan yang bermakna kadar CRP, albumin dan CAR berdasarkan riwayat terapi saat waktu pemantauan bulan ke 0, 3 dan 6 ($p > 0,05$).

Simpulan: Kadar CRP, albumin dan CAR tidak berbeda bermakna pada berbagai stadium kanker payudara. Kadar CRP dan CAR berbeda bermakna pada bulan ke 1 dan 3 berdasarkan adanya metastasis. Kadar CRP dan CAR tidak berbeda bermakna pada bulan ke 6 berdasarkan adanya metastasis. Kadar Albumin tidak berbeda pada bulan ke 1, 3 dan 6 berdasarkan adanya metastasis. Kadar CRP, albumin dan CAR tidak berbeda bermakna berdasarkan riwayat terapi.

Kata Kunci: *C-Reactive protein* (CRP), albumin, kanker payudara, stadium

ABSTRACT

Background: Breast cancer is a malignancy of breast tissue originating from the ductal or lobular epithelium. Factors that influence the progression of breast cancer include chronic inflammation, which is a marker of cancer development that needs to be monitored. Inflammatory markers that can be used to identify the presence of inflammation include C-Reactive Protein (CRP) and albumin. These inflammatory markers in breast cancer have not been widely studied to assess its progression

Objective: This study aims to evaluate CRP and albumin levels in various degrees of breast cancer at RSUP Dr. Sardjito at 0 months, 3 months, and 6 months of laboratory monitoring.

Method: This research is a prospective longitudinal observational study. This research involved patients diagnosed with breast cancer of various stages who underwent laboratory examinations at the Integrated Cancer Center of RSUP Dr. Sardjito Yogyakarta and is willing to have serial CRP and albumin levels checked, namely at inclusion, 3 and 6 month monitoring. Next, a test of different CRP and albumin levels was carried out at various stages at each monitoring time with a p value <0.05 determined to be statistically significant.

Results: There were 53 breast cancer subjects, stage I (1.9%), stage II (22.6%), stage III (35.8%), and stage IV (39.6%). There were no significant differences in CRP levels, albumin and CAR at various stages at the 1st, 3rd and 6th months of monitoring ($p > 0.05$). There were 21 subjects with metastases (39.6%), with the most metastatic organ being bone (52.4%). There were significant differences in CRP levels at various stages based on the presence of metastases at month 1 ($p = 0.048$) and month 3 ($p = 0.018$). There was a significant difference in CAR based on the presence of metastases at month 1 ($p = 0.046$) and month 3 ($p = 0.024$). At month 1, patients who did not have metastases had lower CRP levels than those who had metastases (2.41 vs 3.20) and at month 3 (1.65 vs 3.42). There were no significant differences in CRP levels, CAR in month 6 ($p = 0.964$) and albumin levels months 1, 3 and 6 ($p > 0.05$). There were 32 subjects with a history of surgery and chemotherapy (60.4%) and 21 subjects (39.6%) with surgery, chemotherapy and radiotherapy. There were no significant differences in CRP, albumin and CAR levels based on therapy history at 0.3 and 6 months of monitoring ($p > 0.05$).

Conclusion: CRP, albumin and CAR levels did not differ significantly at various stages of breast cancer. CRP and CAR levels were significantly different at months 1 and 3 based on the presence of metastases. CRP and CAR levels did not differ significantly at 6 months based on the presence of metastases. Albumin levels did not differ at months 1, 3 and 6 based on the presence of metastases. CRP, albumin and CAR levels did not differ significantly based on therapy history.

Keywords: C-Reactive protein (CRP), albumin, breast cancer, stage