

ABSTRAK

Latar Belakang: Kanker payudara merupakan penyebab utama kematian akibat kanker pada wanita di seluruh dunia. Pemantauan biomarker seperti CA 15-3, Lymphocyte to Monocyte Ratio (LMR), dan albumin memiliki potensi dalam mengevaluasi prognosis dan respons terapi pasien kanker payudara. Namun, hubungan antara ketiga parameter ini belum banyak diteliti.

Tujuan: Mengetahui hubungan antara kadar CA 15-3 dengan LMR dan albumin pada pasien kanker payudara.

Metode: Penelitian ini merupakan studi observasional dengan desain cross-sectional yang dilakukan di Laboratorium RSUP Dr. Sardjito pada bulan April-Mei 2025. Sampel berjumlah 31 pasien kanker payudara yang menjalani pemeriksaan CA 15-3 dan darah rutin serta dilakukan pemeriksaan albumin dari serum sisa. Analisis data menggunakan uji normalitas Shapiro-Wilk dan uji korelasi Spearman.

Hasil: Mayoritas pasien adalah perempuan dengan rentang usia pra-lansia. Sebanyak 65% pasien memiliki kadar CA 15-3 <26.2 U/mL, 65% memiliki nilai LMR ≥ 3 , dan 90% memiliki kadar albumin ≥ 3.5 g/dL. Terdapat hubungan yang sangat lemah antara CA 15-3 dengan LMR ($r = 0.077$) dan CA 15-3 dengan albumin ($r = 0.168$), serta hubungan yang kuat antara LMR dengan albumin ($r = 0.604$).

Kesimpulan: Dalam penelitian ini, ditemukan sebanyak 20 responden (65%) memiliki kadar CA 15-3 dalam rentang normal ($< 26,2$ U/mL) dan 11 responden (35%) berada di atas nilai normal. Sebanyak 11 responden (35%) menunjukkan nilai LMR yang rendah ($< 3,0$), sedangkan 20 responden (65%) memiliki LMR dalam batas normal. Hasil pemeriksaan albumin menunjukkan bahwa hanya 3 responden (10%) yang memiliki kadar albumin rendah ($< 3,5$ g/dL), sementara mayoritas responden yaitu 28 orang (90%) berada dalam kisaran normal. Analisis hubungan menunjukkan bahwa korelasi antara CA 15-3 dengan LMR maupun albumin tergolong sangat rendah, sedangkan hubungan antara LMR dan albumin menunjukkan korelasi yang cukup kuat.

Kata kunci: kanker payudara, CA 15-3, *lymphocyte to monocyte ratio* (LMR), albumin.

ABSTRACT

Background: Breast cancer remains a leading cause of cancer-related mortality among women globally. Biomarkers such as Cancer Antigen 15-3 (CA 15-3), Lymphocyte to Monocyte Ratio (LMR), and serum albumin levels are potentially valuable in assessing prognosis and therapeutic response in breast cancer patients. However, the interrelationship between these markers is not yet fully understood.

Objective: To determine the relationship between CA 15-3 levels, LMR, and serum albumin in breast cancer patients.

Methods: This observational study with a cross-sectional design was conducted at the Clinical Pathology Laboratory of RSUP Dr. Sardjito during April–May 2025. A total of 31 female breast cancer patients who underwent CA 15-3 testing and routine blood tests were included. Albumin levels were analyzed from stored serum samples. Data were analyzed using the Shapiro-Wilk normality test and Spearman correlation test.

Results: Most patients were middle-aged women (45–59 years). About 65% had CA 15-3 levels within normal range (<26.2 U/mL), 65% had $\text{LMR} \geq 3.0$, and 90% had albumin levels ≥ 3.5 g/dL. There was a very weak correlation between CA 15-3 and LMR ($r = 0.077$), and between CA 15-3 and albumin ($r = 0.168$). A strong correlation was found between LMR and albumin ($r = 0.604$).

Conclusion: In this study, it was found that 20 respondents (65%) had CA 15-3 levels within the normal range (< 26.2 U/mL), while 11 respondents (35%) had elevated levels. A total of 11 respondents (35%) had a low LMR value (< 3.0), whereas 20 respondents (65%) had a normal LMR (> 3.0). Albumin test results showed that only 3 respondents (10%) had low albumin levels (< 3.5 g/dL), while the majority, 28 respondents (90%), had normal albumin levels. The analysis showed that the correlation between CA 15-3 with LMR and albumin was very weak, while the correlation between LMR and albumin was relatively strong..

Keywords: breast cancer, CA 15-3, lymphocyte to monocyte ratio (LMR), albumin.