

ABSTRACT

Background: *ST-Elevation Myocardial Infarction (STEMI) causes significant myocardial damage and increases the risk of heart failure. Inflammation, reflected by leukocyte count, is considered to play a crucial role in the pathophysiology of STEMI. Recent studies suggest that leukocytosis may be associated with impaired cardiac function in myocardial infarction patients.*

Objective: *This study aims to evaluate the relationship between leukocyte count and left ventricular ejection fraction (LVEF) in STEMI patients.*

Methods: *A cross-sectional study was conducted from August to September 2024 at RSUD Raden Mattaher Jambi. Data were collected from patient medical records, including leukocyte count at hospital admission and LVEF measured by echocardiography a few days later. Bivariate analysis was performed to assess the relationship between leukocyte count and LVEF using Fisher's Exact and Spearman's rank correlation tests.*

Results: *A total of 80 patients were included in this study. The majority of patients were male (82,5%), with high leukocyte counts (67.5%) and low LVEF (82.5%). The mean age was 57,8 years, with prevalences of hypertension, diabetes, and dyslipidemia at 38,8%, 33,8%, and 47,5%, respectively. Statistical analysis showed no significant relationship between leukocyte count and LVEF, both in the Fisher's Exact test ($p=0.497$) and Spearman's rank correlation tests ($p=0.078$; $r=0.16$).*

Conclusion: *No significant relationship was found between leukocyte count and LVEF in STEMI patients.*

Keywords: *STEMI, leukocyte, ejection fraction*

ABSTRAK

Latar belakang: *ST-Elevation Myocardial Infarction* (STEMI) menyebabkan kerusakan miokardium yang signifikan dan meningkatkan risiko gagal jantung. Inflamasi, yang tercermin melalui jumlah leukosit, dianggap berperan penting dalam patofisiologi STEMI. Penelitian terbaru menunjukkan bahwa leukositosis mungkin berhubungan dengan penurunan fungsi jantung pada pasien infark miokard.

Tujuan: Penelitian ini bertujuan untuk mengevaluasi hubungan antara jumlah leukosit dan nilai *left ventricular ejection fraction* (LVEF) pada pasien STEMI.

Metode: Penelitian *cross-sectional* dilakukan pada Agustus–September 2024 di RSUD Raden Mattaher Jambi. Data dikumpulkan dari rekam medis pasien, termasuk jumlah leukosit pada saat masuk rumah sakit dan LVEF yang diukur menggunakan ekokardiografi beberapa hari kemudian. Analisis bivariat dilakukan untuk menguji hubungan antara jumlah leukosit dan LVEF menggunakan uji Fisher dan korelasi Spearman.

Hasil: Sebanyak 80 pasien dilibatkan dalam penelitian ini. Mayoritas pasien berjenis kelamin laki-laki (82,5%), dengan jumlah leukosit tinggi (67,5%) dan LVEF rendah (82,5%). Rerata usia pasien adalah 57,8 tahun dengan prevalensi hipertensi 38,8%, diabetes 33,8%, dan dislipidemia 47,5%. Analisis statistik menunjukkan bahwa tidak ada hubungan yang signifikan antara jumlah leukosit dan LVEF, baik menggunakan uji Fisher ($p = 0,497$) maupun korelasi Spearman ($p = 0,078$; $r = 0,16$).

Kesimpulan: Tidak ditemukan hubungan yang bermakna antara jumlah leukosit dan LVEF pada pasien STEMI.

Kata Kunci: STEMI, leukosit, fraksi ejeksi