

Background

- Cardiovascular disease is still the leading cause of death globally and is expected to continue to increase.
- In Indonesia, ischemic heart disease is the main cause of morbidity and mortality.
- Neutrophil to Lymphocyte Ratio (NLR) is a simple, non-specific marker of inflammation which is available in rural regions, and also affordable
- NLR has the predictive value for the rehospitalization after the ACS incident and the mortality rate in ACS patients.

Method

- Single-center observational analytical study conducted in a retrospective cohort.
- Subject of 102 patients who are included in the research in period of 1 year.
- NLR data taken at the time of hospital admission were divided into 3 groups;
 - low (<3)
 - moderate (3-5)
 - high (>5)
- Data of rehospitalization and mortality during hospitalization were obtained through EMR.

Patient's Clinical Characteristics

Age (years)	56.8 (32-80)	
Sex	Male (81.4%)	Female (18.6%)
Hypertension	Yes (14.7%)	No (85.3%)
Diabetes Mellitus	Yes (10.8%)	No (89.2%)
ACS Classification:		
STEMI	24.5%	
NSTEMI	2.9%	
UAP	72.5%	
NLR at admission		
Low (<3)	47.1%	
Moderate (3-5)	26.5%	
High (>5)	26.5%	
Death in hospitalization	Yes (6.9%)	93.1%
Reshospitalization	Yes (2.9%)	(97.1%)

Result

- ✓ The highest number of deaths was found in the high NLR category and there was a strong relationship between NLR values and mortality in ACS patients with a statistically significant level of significance (P = 0.038).
- ✓ The relationship between NLR and the incidence of rehospitalization was found in 3 patients (0.3%) who were found in the low and moderate NLR categories and there was no significant relationship (P= 0.264).

NLR to Rehospitalization in ACS Patient Relationship

Ordinal by Ordinal	Gamma	Value	Asymptotic Standardized Error	Approximate T ^b	Approximate Significance
	Spearman Correlation	-.486	.381	-1.116	.264
		-.093	.070	-.929	.355 ^c
N of Valid Cases		102			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					

NLR to Mortality in ACS Patient Relationship

Ordinal by Ordinal	Gamma	Value	Asymptotic Standardized Error	Approximate T ^b	Approximate Significance
	Spearman Correlation	.710	.207	2.074	.038
		.243	.093	2.505	.014 ^c
N of Valid Cases		102			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					

Conclusion

The NLR value was associated with mortality during treatment, but was not associated with the incidence of rehospitalization in ACS patients. NLR examination is a supporting examination with a wide range of access, affordable and useful in predicting the prognosis of ACS patients.

Keywords: NLR, Acute Coronary Syndrome, Mortality, Rehospitalization.



For full study please scan QR code.

