

P1.348: PLATINUM CHEMOTHERAPY RESPONSE AND INFLAMMATORY BIOMARKERS IN INDONESIAN LUNG ADENOCARCINOMA: A HIGH TOBACCO BURDEN STUDY

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INTRODUCTION

Indonesia has one of the highest smoking prevalences globally, and tobacco use remains the main driver of lung cancer. National insurance covers EGFR and ALK testing, but few facilities offer it and results often take weeks. Accessible prognostic markers is essential. The neutrophil-to-lymphocyte ratio (NLR) and systemic immune-inflammation index (SII) are cost-effective tools derived from a routine blood count that may reflect systemic inflammation.

This preliminary study describes the clinical profile and explores the association between these inflammatory biomarkers and chemotherapy response in a high-tobacco-burden Indonesian cohort.

METHODS

Design: retrospective preliminary analysis
Setting: Persahabatan National Respiratory Center, Jakarta, Indonesia, 2023 to 2025
Subjects: 43 patients with histologically confirmed advanced lung adenocarcinoma, stage IIIA to IVB
Treatment: six cycles of carboplatin-paclitaxel as first-line platinum-based chemotherapy
Biomarkers: NLR and SII calculated from pretreatment complete blood counts
Smoking status: categorized as never-smokers versus current or former smokers
Response: assessed by RECIST 1.1 after 3 to 6 cycles
Endpoints: objective response rate (ORR) and disease control rate (DCR)
Analysis: Using SPSS 25, Fisher exact test for categorical outcomes and Mann-Whitney U test for continuous biomarkers, with significance set at $p < 0.05$

DISCUSSION AND CONCLUSION

Take Away Message

First-line platinum-based chemotherapy yielded robust disease control in this high-tobacco-burden Indonesian adenocarcinoma cohort, particularly among never-smokers (100% DCR). Baseline NLR and SII were not statistically significant as predictive tools, but the values reflect an inflammatory burden that is rarely documented in Indonesian lung cancer patients.

Future Direction for Research

Larger multicenter prospective studies using NLR and SII are required to validate the prognostic value in Southeast Asian populations.

REFERENCES & ACKNOWLEDGEMENTS

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The authors used Claude (Anthropic) for drafting assistance, figure generation, and language editing, and Consensus.app for literature organisation. No AI tool was used for data collection, statistical analysis, or interpretation of results; all outputs were reviewed and verified by the authors, who take full responsibility for the content of this work.

RESULTS

The cohort reflected the high regional tobacco burden, with 72.1% (31/43) being current or former smokers, nearly all were men (Fig.1). Median age was 60 years, and 72.1% presented with stage IV disease (Table 1). High baseline systemic inflammation was prevalent, with a median NLR of 3.26 and a median SII of 1336.7.

Table 1. Baseline characteristics and treatment outcomes (n=43)

Characteristic	n (%) or median (IQR)
Demographics	
Age, years	60 (51.5-65)
Male	31 (72.1)
Female	12 (27.9)
Smoking	
Never-smoker	12 (27.9)
Current or former smoker	31 (72.1)
Pack-years, ever-smokers	20.0 (11.1-32.0)
Disease	
Stage III	11 (25.6)
Stage IV	32 (74.4)
ECOG PS 0	7 (16.3)
ECOG PS 1	33 (76.7)
ECOG PS 2	3 (7.0)
Baseline inflammatory markers	
NLR	3.26 (2.33-4.26)
SII, $\times 10^9/L$	1336.7 (831.2-1738.2)
Response, RECIST 1.1	
Partial response	13 (30.2)
Stable disease	26 (60.5)
Progressive disease	4 (9.3)
ORR	13 (30.2)
DCR	39 (90.7)

IQR, interquartile range; ECOG PS, Eastern Cooperative Oncology Group performance status; NLR, neutrophil-to-lymphocyte ratio; SII, systemic immune-inflammation index; ORR, objective response rate; DCR, disease control rate.

Stage III comprised IIIA (n=7) and IIIB (n=4); stage IV comprised IVA (n=26) and IVB (n=6).

Smoking status (n=43)

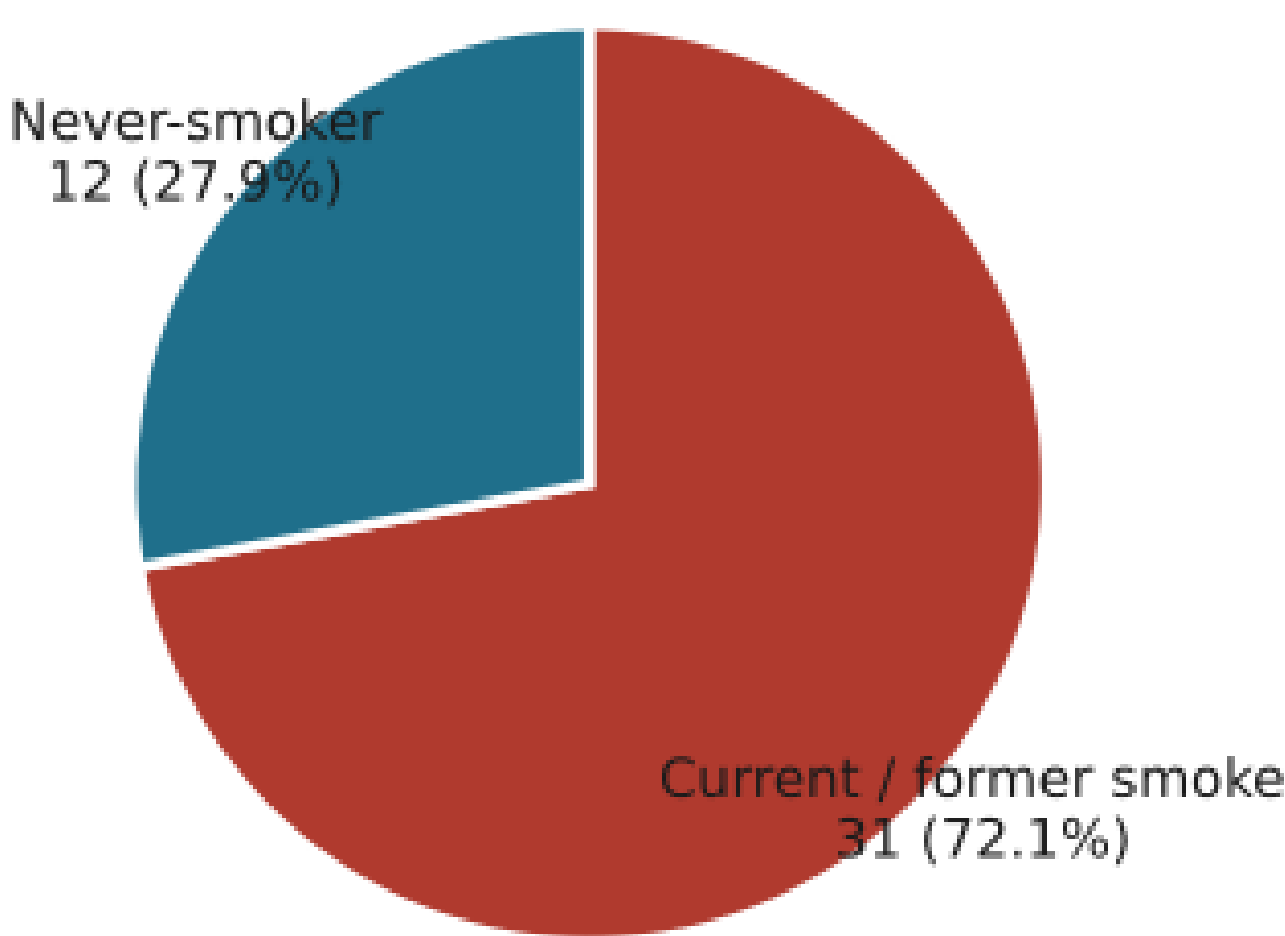


Figure 1. Smoking status of the cohort

Best overall response, RECIST 1.1 (n=43)

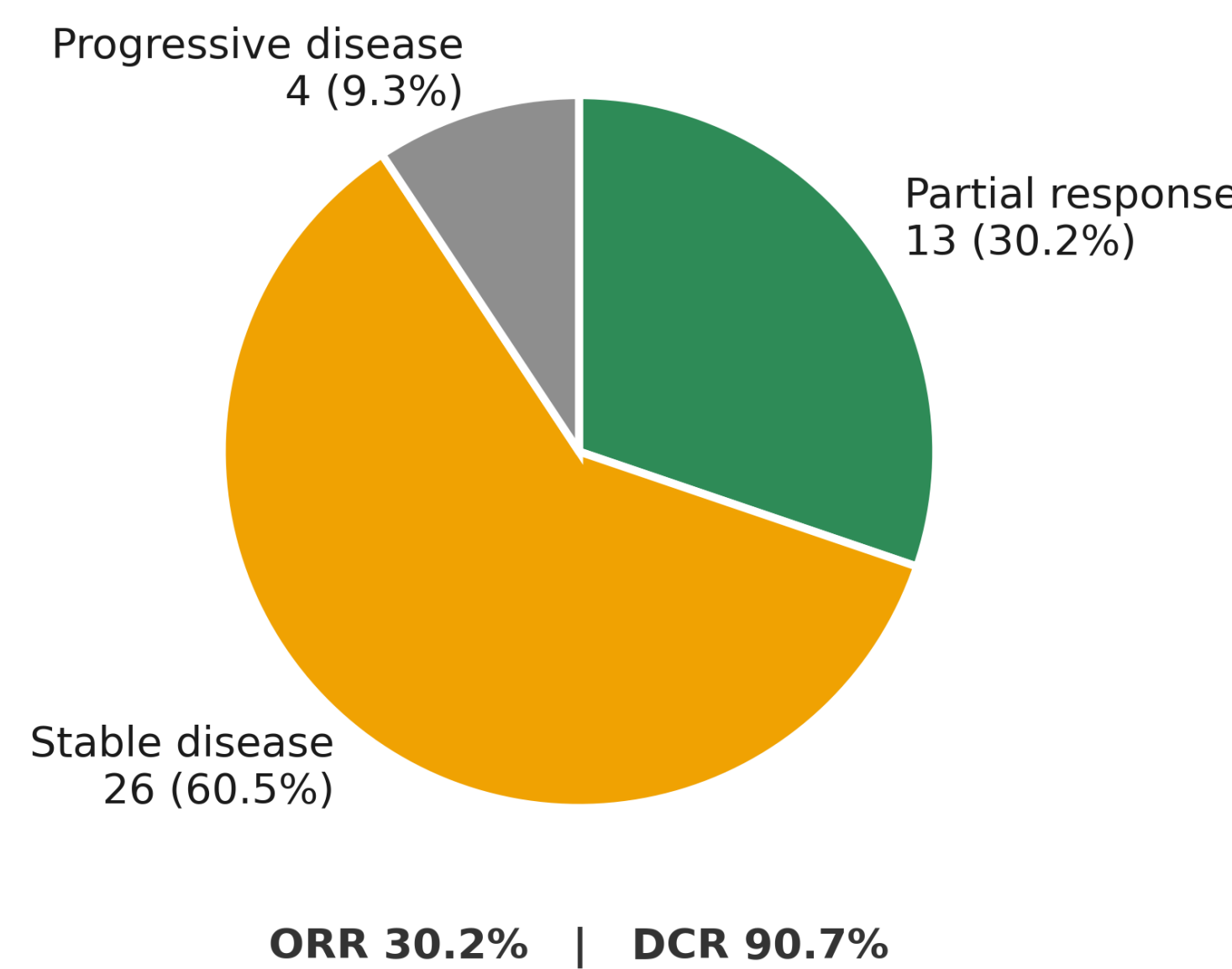


Figure 2. Best overall response by RECIST 1.1

Inflammatory markers by smoking status

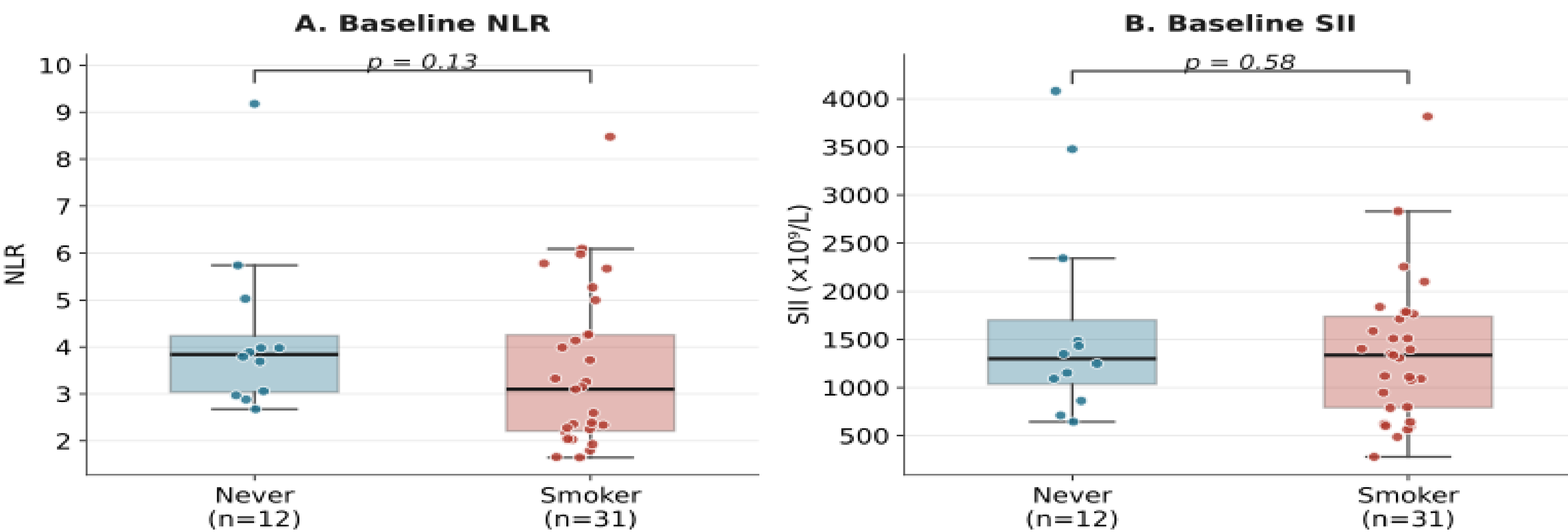


Figure 3. Baseline inflammatory markers by smoking status. Box plots with individual data points. (A) NLR, median 3.84 versus 3.10, $p=0.13$. (B) SII, median 1299.3 versus 1336.7, $p=0.58$. Mann-Whitney U test.