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INTRODUCTION

SYSTEMIC INFLAMMATION

Simple and accessible biomarker of host inflammatory status.

KNOWLEDGE GAP

Limited evidence in **resectable stage III NSCLC**, treated with neoadjuvant chemotherapy (NeoCT) or chemoradiotherapy (NeoCRT). Data on early dNLR dynamics in this setting remain scarce.

UNMET NEED

Clinical relevance of **early dNLR dynamics** remains unclear.

dNLR = *neutrophils* / (*leukocytes* – *neutrophils*)

AIM To evaluate baseline dNLR and early dNLR dynamics as prognostic biomarkers of PFS and OS in patients receiving NeoCT or NeoCRT, without immunotherapy.

METHODS

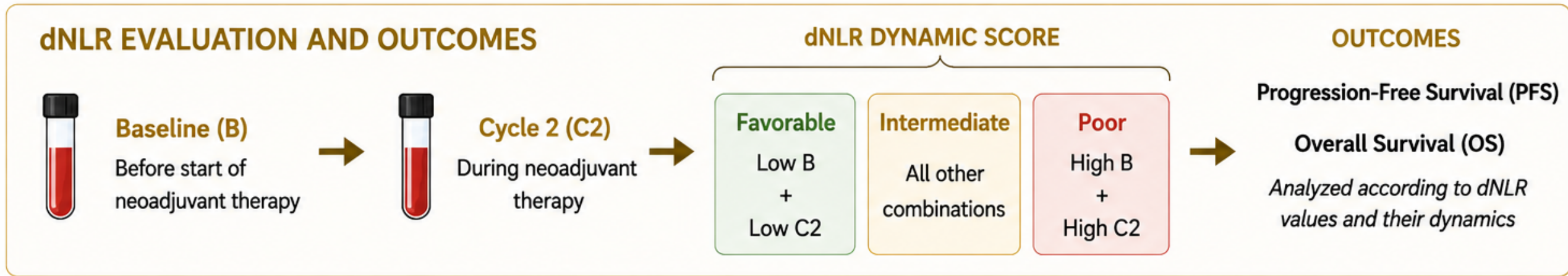
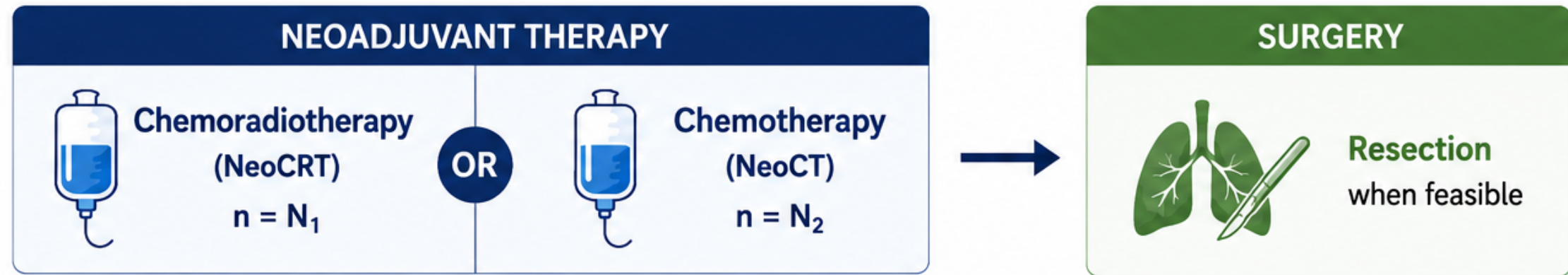
Retrospective Multicenter Analysis in Resectable Stage III NSCLC



69 patients with resectable stage III NSCLC



February 2012 – July 2021
Multicenter retrospective analysis



Optimal dNLR cut-off: 2.24



Cut-off derived from outcome analysis of PFS and OS

RESULTS

- Baseline characteristics are summarized in Table 1 and were well balanced between treatment groups, except for age, with NeoCT patients being significantly older than NeoCRT patients (median 67 vs. 59 years; p=0.005).
- High baseline dNLR was associated with significantly shorter PFS in the NeoCRT cohort (p=0.0085), but not in NeoCT patients (p=0.73) (Figure 1)
- A persistently elevated dNLR (High–High) was associated with significantly shorter PFS in the overall cohort (p=0.006) and NeoCRT subgroup (p=0.019), but not in NeoCT patients (p=0.717) (Figure 2)

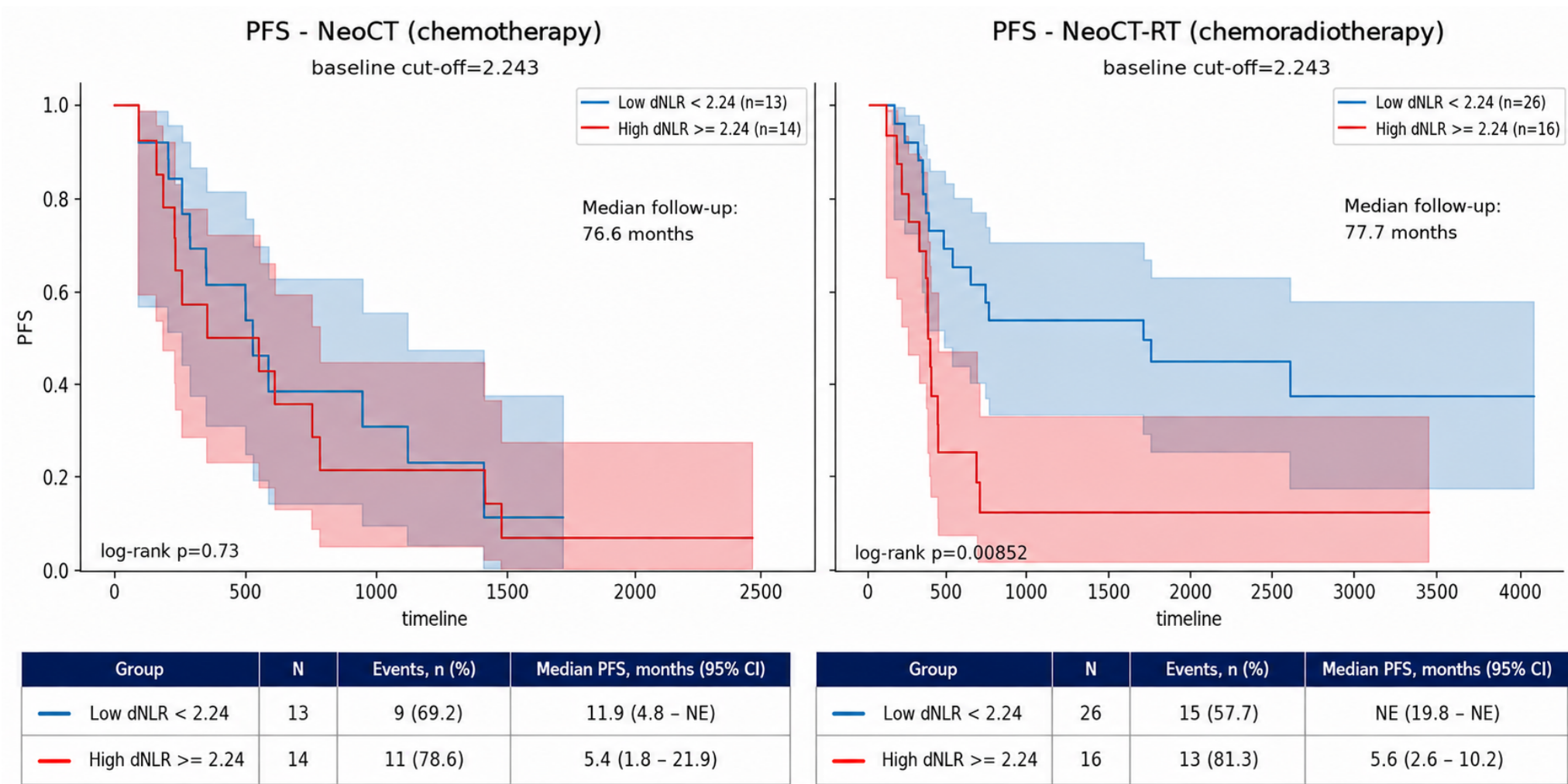


Figure 1: PFS According to Baseline dNLR in NeoCT and NeoCRT

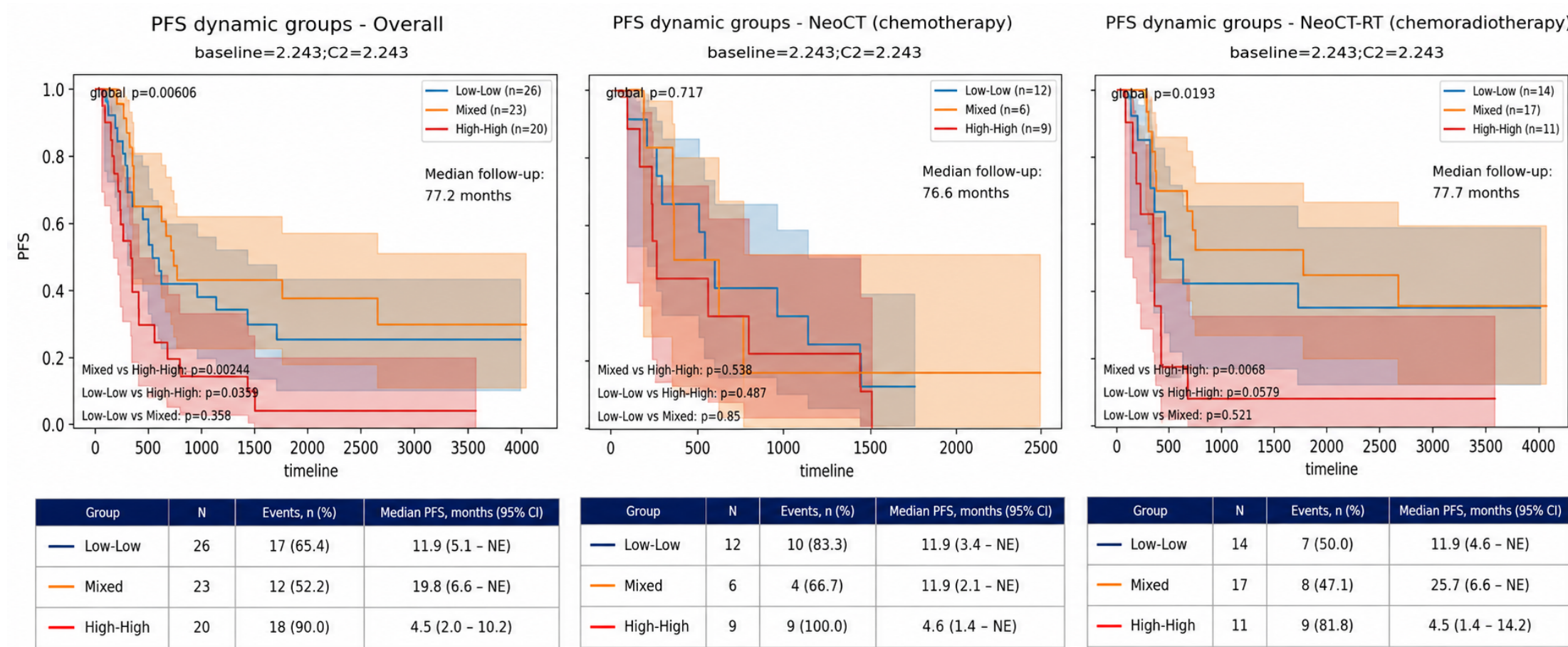


Figure 2: PFS According to Dynamic dNLR in NeoCT and NeoCRT

Characteristic	Overall (N=69)	NeoCRT (n=42)	NeoCT (n=27)	P value
Age, median (range), years	64 (41–79)	59 (41–78)	67 (43–79)	0.005
Sex, n (%)				0.471
Male	49 (71.0)	28 (66.7)	21 (77.8)	
Female	20 (29.0)	14 (33.3)	6 (22.2)	
Smoking status, n (%)				0.488
Former smoker	29 (42.0)	20 (47.6)	9 (33.3)	
Current smoker	35 (50.7)	19 (45.2)	16 (59.3)	
Never smoker	5 (7.2)	3 (7.1)	2 (7.4)	
ECOG-PS, n (%)				0.613
0	13 (18.8)	21 (50.0)	11 (40.7)	
1	54 (78.3)	21 (50.0)	16 (59.3)	
2	2 (2.9)	0	0	
Histology, n (%)				0.782
Adenocarcinoma	45 (65.2)	26 (61.9)	19 (70.4)	
Squamous carcinoma	20 (29.0)	14 (33.3)	6 (22.2)	
NSCLC NOS	2 (2.9)	1 (2.4)	1 (3.7)	
Large-cell carcinoma	2 (2.9)	1 (2.4)	1 (3.7)	
Clinical stage, n (%)				0.560
IIB	2 (2.9)	2 (4.8)	0	
IIIA	48 (69.6)	28 (66.7)	20 (74.1)	
IIIB	18 (26.1)	11 (26.2)	7 (25.9)	
IV	1 (1.4)	1 (2.4)	0	
PD-L1 status, n (%)				0.051
<1%	8 (29.6)*	2 (16.7)*	6 (42.9)*	
≥1%	19 (70.4)*	10 (83.3)*	8 (57.1)*	
Missing	42 (60.9)	30 (71.4)	13 (48.1)	
Median follow-up, months	77.2	77.7	76.6	—

* Percentages for PD-L1 are calculated among patients with available PD-L1 data.

CONCLUSION

- Baseline dNLR and its early dynamic changes during NeoCT-RT are associated with outcomes in resectable stage III NSCLC
- Persistent elevation of dNLR identifies a subgroup of patients with poorer prognosis, highlighting its potential as a simple, cost-effective, and dynamic biomarker.
- These findings warrant validation in larger prospective studies and may contribute to improved risk stratification and treatment personalization.