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PRESENTATION NAME

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China

Impact of Neoadjuvant Chemoimmunotherapy Cycle Number on Therapeutic Efficacy in Stage II-IIIb Non-Small Cell Lung Cancer

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Background

- Neoadjuvant chemoimmunotherapy improves outcomes in resectable non-small cell lung cancer (NSCLC), but the optimal number of preoperative cycles remains uncertain.
- Real-world practice varies between ≤ 2 , 3, and ≥ 4 cycles.
- **Objective:** assess whether cycle number is associated with pathological response and identify predictors of response.

Cohort Feature



N = 408
Surgical patients



64
Median age (years)



93.4%
Male



69.4%
Squamous histology



32.6%
PD-L1 TPS $\geq 50\%$



86.5%
Stage IIIA/IIIB

Patient Enrollment

901 NSCLC patients treated with neoadjuvant immunotherapy at 2 centers
January 2021–February 2025

Excluded before cohort (n=383)
• Stage N3 n=82
• EGFR/ALK(+) n=10
• Incomplete data n=291

518 stage II–IIIB
before neoadjuvant therapy

Additional exclusions (n=26)
• Radiotherapy n=3
• Non-platinum n=23

492 received ≥ 1 cycle of platinum-based
neoadjuvant chemoimmunotherapy

No surgery (n=84)
• Progression n=35
• Adverse effect n=31
• Refusal n=5
• Poor PF n=8; unresectable n=5

408 underwent
surgical resection

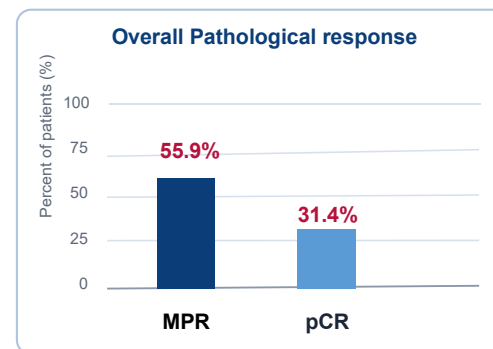
≤ 2 cycles
n=185

3 cycles
n=162

≥ 4 cycles
n=61

Main Outcomes

Primary endpoints: **MPR**, **pCR**



Secondary endpoints: ORR, nodal downstaging, R0 resection, grade ≥ 3 TRAEs

71.6%

ORR

74.6%

Nodal downstaging

95.1%

R0 resection

14.5%

Grade ≥ 3 TRAEs

Abbreviations: MPR, major pathological response; pCR, pathological complete response; ORR, objective response rate, TRAEs, treatment-related adverse events

KEY MESSAGE | 408 surgically treated patients were evaluated across ≤ 2 , 3, and ≥ 4 neoadjuvant treatment cycles.

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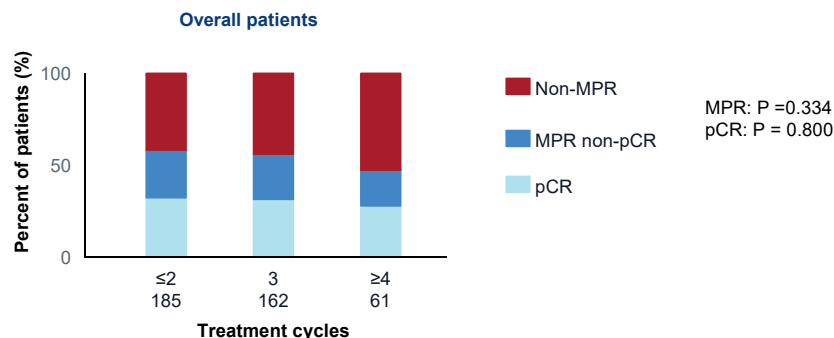
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Pathological Response by Cycle Group



Adjusted Analysis of Cycle Number

Outcome	Comparison	Adjusted OR	95% CI	P
MPR	3 vs ≤2 cycles	0.842	0.540–1.312	0.448
MPR	≥4 vs ≤2 cycles	0.660	0.363–1.200	0.173
pCR	3 vs ≤2 cycles	0.923	0.579–1.471	0.737
Pcr	≥4 vs ≤2 cycles	0.883	0.459–1.699	0.710

Cycle number remained unassociated with pathological response after multivariable adjustment.

What Predicted Pathological Response?

Adjusted Predictors of MPR

Characteristics	Adjusted OR (95% CI)	P value
PD-L1 expression		
TPS 1-49% vs TPS<1%	1.673 (0.983-2.849)	0.058
TPS≥50% vs TPS<1%	3.111 (1.752-5.526)	<0.001*
Radiological response		
CR/PR vs SD/PD	6.195 (3.739-10.265)	<0.001*

Higher OR indicates higher likelihood of achieving MPR.

Abbreviations: CR, complete response; PR, partial response; SD, stable disease; PD, progressive disease; PD-L1, programmed death-ligand 1; TPS, tumor proportion score.

Radiological response and high baseline PD-L1 expression were independently associated with deeper pathological regression.

Adjusted Predictors of pCR

Characteristics	Adjusted OR (95% CI)	P value
PD-L1 expression		
TPS 1-49% vs TPS<1%	1.183 (0.660-2.120)	0.573
TPS≥50% vs TPS<1%	2.357 (1.304-4.259)	0.005*
Radiological response		
CR/PR vs SD/PD	6.836 (3.461-13.504)	<0.001*

Higher OR indicates higher likelihood of achieving pCR.

Exploratory early-response analysis

- Objective response after 2 cycles: surgery after 2 cycles n=124; additional treatment >2 cycles n=99.
- MPR: 71.0% vs 66.7% (P=0.490); pCR: 42.7% vs 43.4% (P=0.917).
- Additional treatment after early response did not improve pathological response.

KEY MESSAGE | Cycle number was not an independent predictor of MPR or pCR. Radiological response and higher baseline PD-L1 were the strongest predictors of deeper pathological regression.

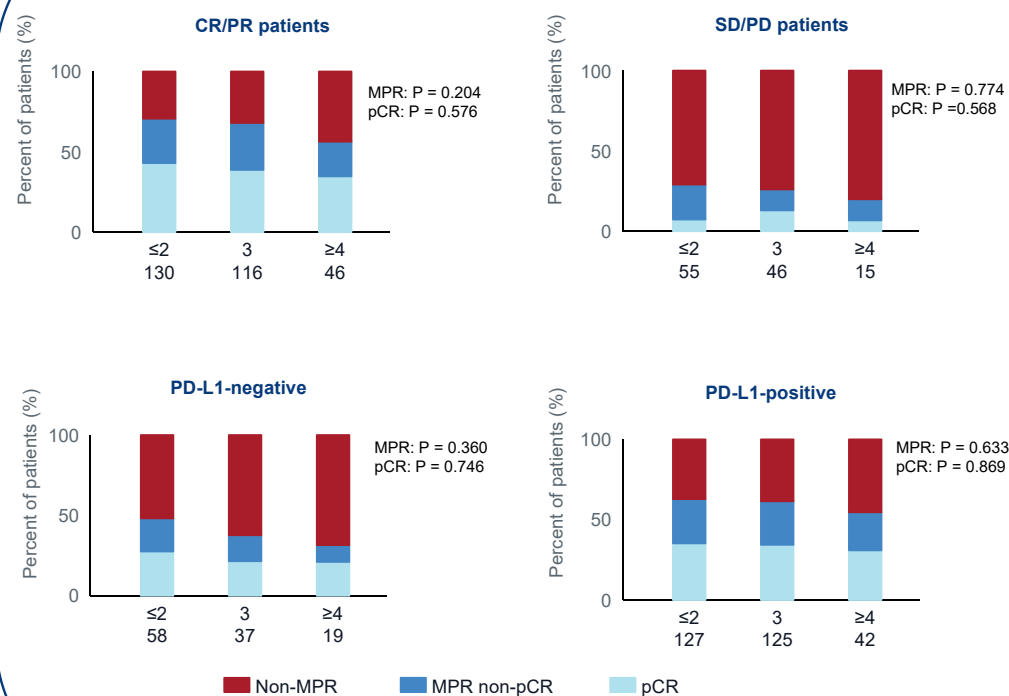
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**Poster #
EP07.68**

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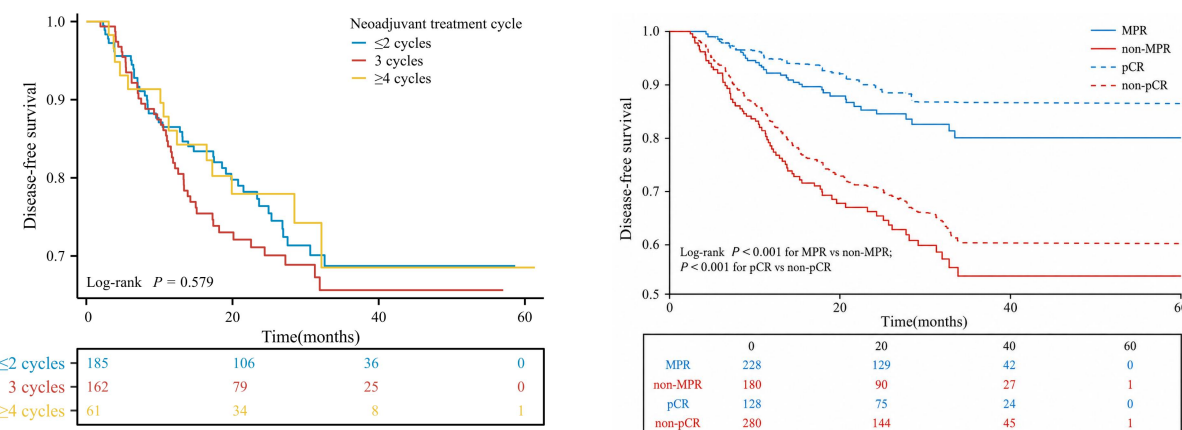
Consistency Across Key Subgroups



No subgroup showed a statistically significant improvement in MPR or pCR across increasing cycle groups.

Disease-Free Survival by Treatment-Cycle Group and by Pathological Response

Median follow-up: 27.6 months (95% CI 25.9–29.3)

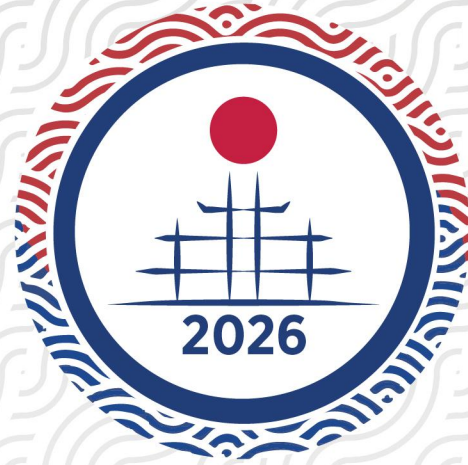


**DFS did not differ significantly across the ≤2-, 3-, and ≥4-cycle groups;
MPR and pCR were both associated with significantly longer DFS.**

Conclusions

- Treatment-cycle number was not significantly associated with MPR, pCR, or DFS.
- Radiological CR/PR and high baseline PD-L1 expression were associated with deeper pathological response.
- These findings support further investigation of individualized, response-adapted neoadjuvant treatment duration.

KEY MESSAGE | DFS was similar across cycle groups, but significantly better in patients who achieved MPR or pCR.



Thank You.●