



Real-World Outcomes of Trilaciclib in Preventing Chemotherapy-Related Myelosuppression for Unresectable NSCLC

Yaping Quan¹, Hao Li¹, Zhengjie Liang¹, Yan Zeng¹, Jie Shen¹, Yongwei Duan¹, Yong Hu¹
¹Guiyang Public Health Clinical Center No. 6, Dangying Road, Yunyan District, Guiyang City, Guizhou Province, China. 550001
Correspondence: huyong0851@163.com



IASLC 2026 World
Conference on Lung Cancer
SEPTEMBER 12 - 15, 2026
SEOUL, REPUBLIC OF KOREA

P2.322

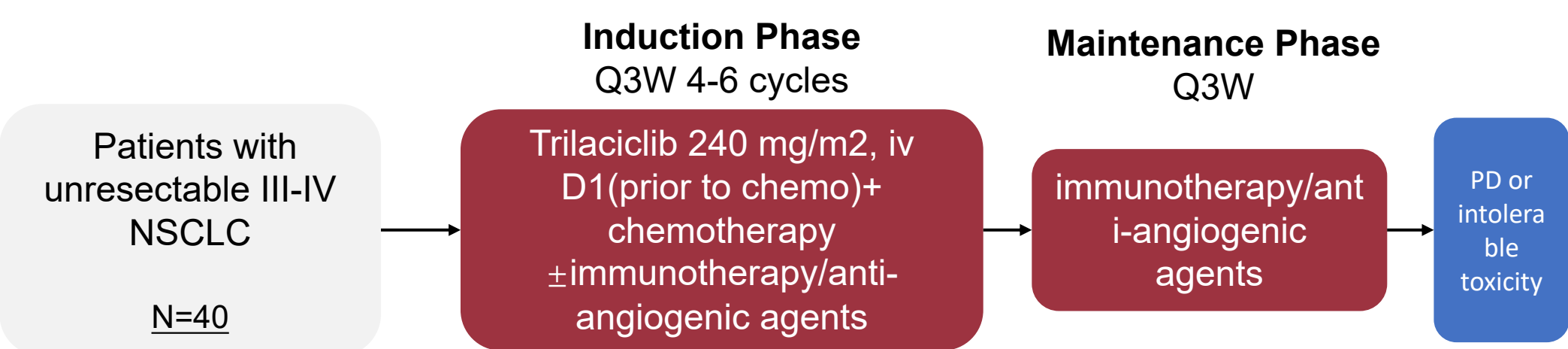
INTRODUCTION

- Chemotherapy-induced myelosuppression (CIM) is the most common adverse event of NSCLC treatment, often necessitating reductions or delays in chemotherapy. However, existing preventive measures have limitations, and there is a lack of multi-lineage prevention and treatment strategies.
- Trilaciclib is an intravenous CDK4/6 inhibitor administered before chemotherapy to protect hematopoietic stem and progenitor cells as well as immune function from chemotherapy-induced injury, thereby exerting myelopreservative effects.
- Trilaciclib has been approved for the use of SCLC before chemotherapy to reduce the incidence of CIM.
- This real-world study aims to investigate the myeloprotective effects of trilaciclib in patients with NSCLC receiving chemotherapy-based treatment.

METHODS

Design:

- Clinical data were retrospectively collected from 40 patients with unresectable III-IV NSCLC who underwent chemotherapy with or without immunotherapy/anti-angiogenic agents concurrent at the Guiyang Public Health Clinical Center between November 2024 and March 2026.
- All patients received intravenous trilaciclib (240 mg/m²) 4 h prior to the administration of chemotherapy.
- The primary endpoint was the occurrences of ≥ 3 Grade Neutrophil Count Decreased.
- Secondary endpoints included antitumor efficacy (PFS/ORR/DOR/OS), myeloprotection effects (Grade ≥ 3 thrombocytopenia, anemia, etc)(Figure1).



Primary endpoint:
Occurrences of ≥ 3 Grade Neutrophil Count Decreased
Secondary endpoints:
antitumor efficacy (PFS/ORR/DOR/OS)
myeloprotection effects (Grade ≥ 3 thrombocytopenia, anemia, etc)

Figure1.Study Design

DISCUSSION AND CONCLUSION

Actionable Take Away Message

- Trilaciclib demonstrated potent myeloprotection: Grade ≥ 3 neutropenia rate was only 20% (15% in cycle 1), with 0% grade ≥ 3 anemia, significantly reducing CIM risks.
- Improved chemotherapy delivery: 82.5% patients completed planned chemotherapy cycles, correlating with a high ORR (77.5% overall, 84.85% in completers).
- Excellent safety: No grade ≥ 3 Trilaciclib-related adverse events were reported, confirming good tolerability.

Future Direction for Research

- Conduct large-scale prospective trials to validate long-term survival benefits and expand to broader cancer types.
- Explore combination strategies with immunotherapy and anti-angiogenic agents to enhance treatment efficacy.

REFERENCES & ACKNOWLEDGEMENTS

References

- Chen Y, et al. Myeloprotection effects of trilaciclib in Chinese patients with extensive stage small cell lung cancer (ES-SCLC) receiving chemotherapy-a real-world study. J Thorac Dis. 2024 Nov 30;16(11):7233-7243.
- Elijah J, et al. Trilaciclib use in extensive-stage small cell lung cancer (ES-SCLC): are clinical benefits seen in the real-world setting? Support Care Cancer. 2024;32:622.

Acknowledgements

Gratitude to all patients and medical staff involved in the study. Special thanks to Guiyang Public Health Clinical Center for providing research support and resources.

Disclosures

- Funding: This study received no funding from pharmaceutical or biotech companies.
- Trial Status: This is a real-world retrospective study, not a phase I-IV clinical trial.
- AI Assistance: Deepseek AI technology was used for literature collation and draft preparation, with final content reviewed and validated by clinical experts to ensure accuracy and compliance with ACCME standards.

Scan QR codes below for full reference list



RESULTS

- As of March 2026, 40 patients received trilaciclib before chemotherapy (male: 37 [92.5%]; median age: 64 years [range: 52~79]; first-line treatment:30[75%]; stage IV:29 [72.5%]; squamous cell carcinoma:23 [57.5%]) (Table 1).
- The ORR was 77.5% overall. 33 patients (82.5%) completed the planned chemotherapy, and the ORR was 84.85% (Table 2).
- The incidence of grade ≥ 3 chemotherapy-induced neutropenia (CIN) was 20%, with grade ≥ 3 CIN in the first cycle was 15%.The incidence of grade ≥ 3 chemotherapy-induced thrombocytopenia (CIT) was 22.5%.The incidence of grade ≥ 3 chemotherapy-induced anemia (CIA) was 0% (Figure2).
- No grade ≥ 3 trilaciclib-related adverse events occurred. In terms of non-hematological toxicities, most common adverse events were grade 1/2, and no treatmentrelated deaths occurred.The median PFS was not reached.

Table 1. Baseline demographics and disease characteristics

characteristics	Treatment group (n=40)
Median age(range), years	64 (52-79)
<65 years, n (%)	19 (47.5)
≥ 65 years, n (%)	21 (52.5)
Sex, n(%)	
Male	37 (92.5)
Female	3 (7.5)
ECOG PS, n (%)	
0-1	27 (67.5)
2	13 (32.5)
Pathological type, n (%)	
squamous carcinoma	23 (57.5)
adenocarcinoma	17 (42.5)
Smoking status, n (%)	
never	4 (10)
smokers	36 (90)
Disease stage at diagnosis,n(%)	
III	11 (27.5)
IV	29 (72.5)
Therapeutic combination , n (%)	
Chemotherapy alone	3 (7.5)
Chemotherapy combined with immunotherapy	13 (32.5)
Chemotherapy combined with anti-angiogenic therapy	8 (20)
Chemotherapy combined with immunotherapy and anti-angiogenesis therapy	16 (40)
Treatment line,n(%)	
1	11 (27.5)
≥ 2	29 (72.5)
Chemotherapy dosage is sufficient,n(%)	
Yes	24 (60)
No	16 (40)
Complete the expected chemotherapy,n(%)	
Yes	33 (82.5)
No	7 (17.5)

Table2. Summary of Objective Response

Response	Treatment group (n=40)
ORR, %	77.5
DCR, %	95
BOR, n (%)	
CR	0 (0)
PR	31 (77.5)
SD	7 (17.5)
PD	2 (5)

Figure2. grade ≥ 3 Chemotherapy-induced myelosuppression (CIM)

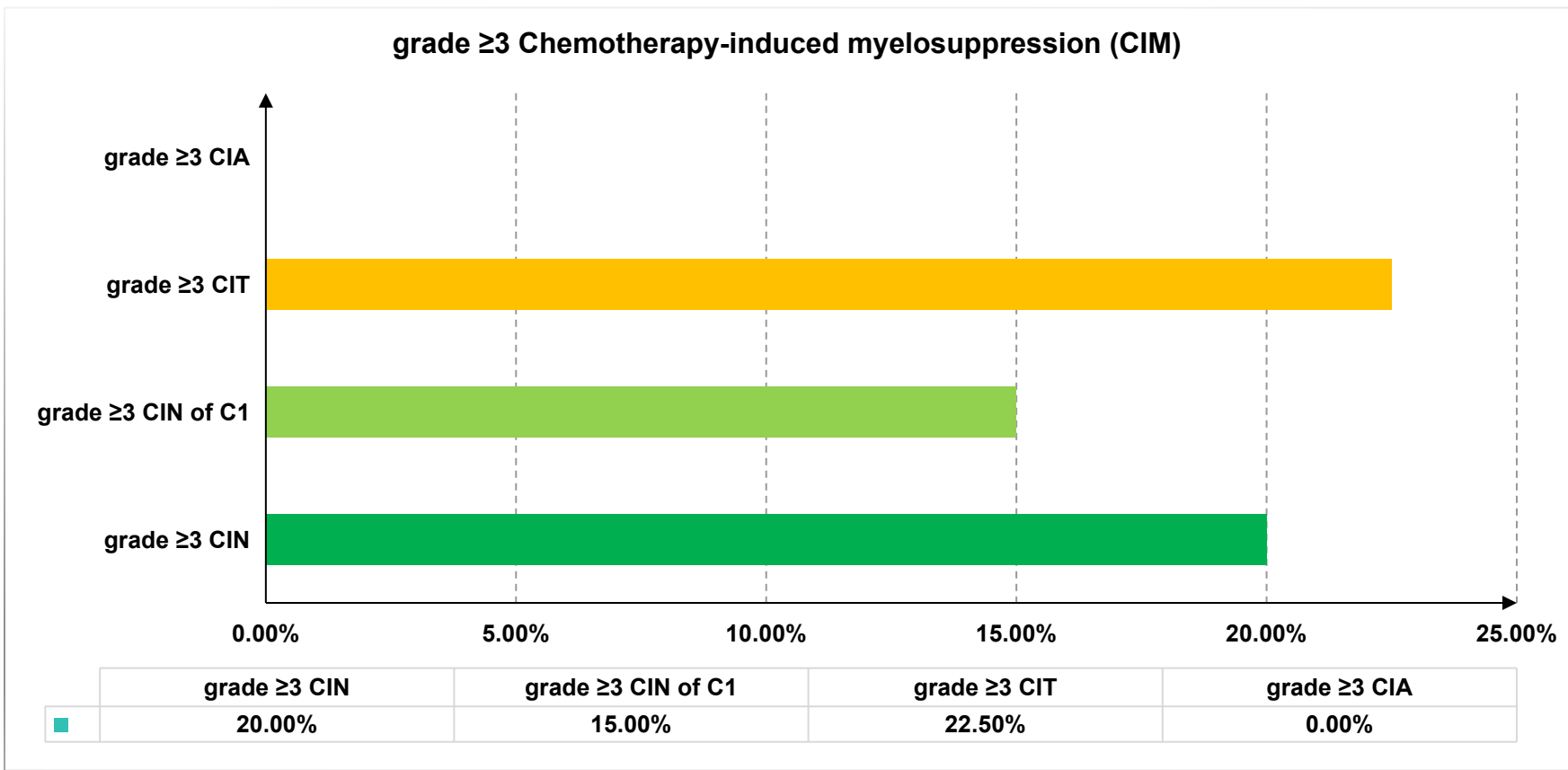


Table3. Summary of adverse events

AE	treatment group (n=40) , n (%)	
	All grades	Grade 3/4
Any AE	38 (95)	11 (37.5)
Haematological		
Neutropenia	17 (42.5)	8 (20)
Thrombocytopenia	16 (40)	9 (22.5)
Anaemia	14 (35)	0 (0)
Nonhaematological		
Constipation	19 (47.5)	0(0)
Fatigue	18 (45)	1(2.5)
Anorexia	14 (35)	0(0)
Nausea	11 (27.5)	0(0)
AST increase	9 (22.5)	1 (2.5)
ALT increase	6 (15)	0(0)
Rash	6 (15)	0(0)
Diarrhea	3 (7.5)	0(0)