

P3.287: Evolution of First-Line Treatment and Survival in Extensive-Stage Small Cell Lung Cancer Across the Immunotherapy Era.

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INTRODUCTION

- Immune checkpoint inhibitors combined with chemotherapy have reshaped first-line treatment; however, long-term real-world evidence regarding treatment evolution, survival outcomes, thoracic radiotherapy (TRT), and prognostic factors remains limited.
- This study was conducted to characterize changes in first-line treatment patterns and survival outcomes over 25 years and evaluate the real-world effectiveness and safety of first-line chemoimmunotherapy in ES-SCLC.

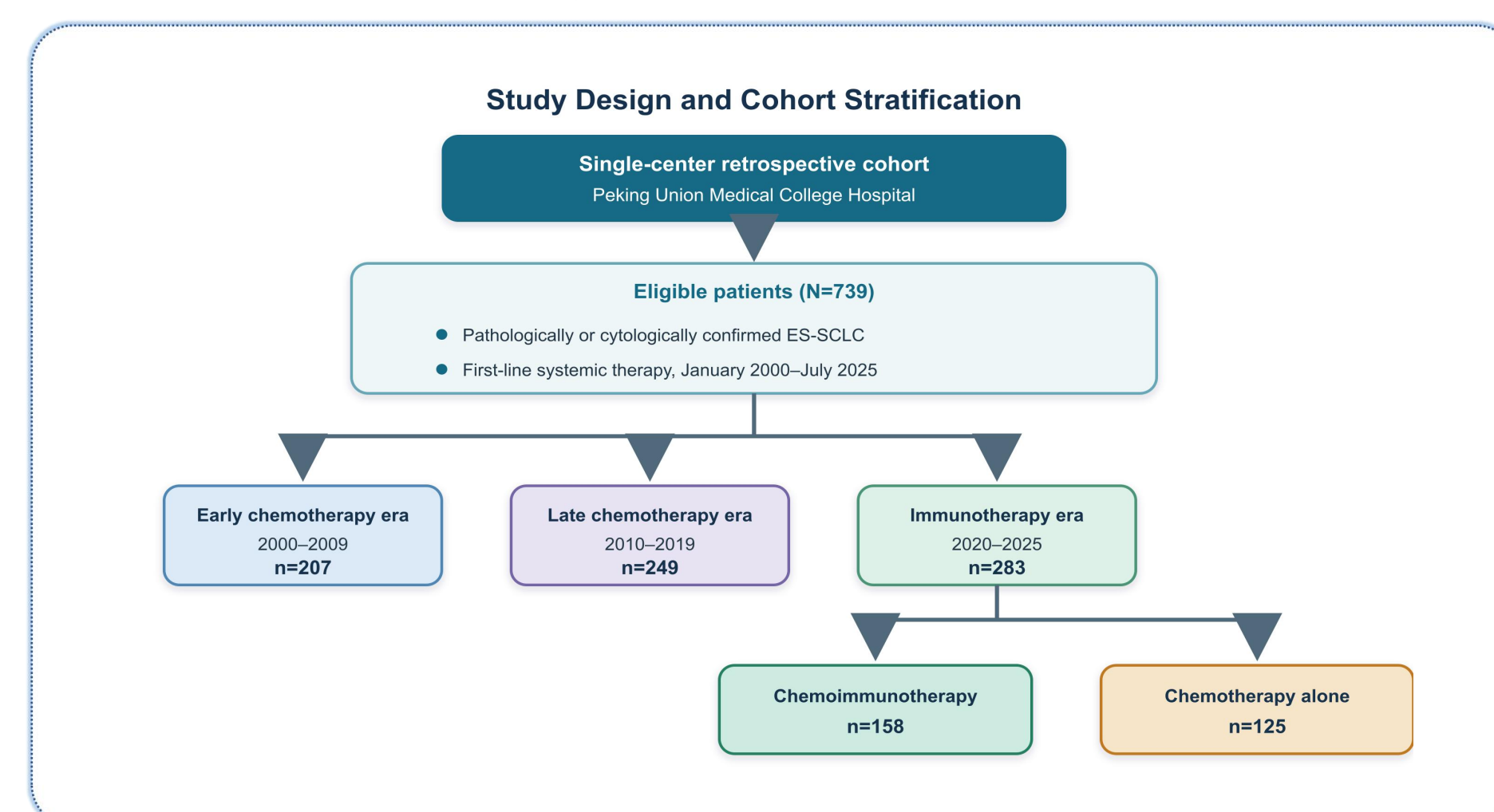
METHODS

Study design

- Single-center, retrospective cohort study conducted at Peking Union Medical College Hospital.
- Consecutive patients with pathologically or cytologically confirmed ES-SCLC who received first-line systemic therapy between January 2000 and July 2025 were included.

Outcomes and analyses

- Primary outcomes: first-line progression-free survival (PFS1) and overall survival (OS).
- Secondary outcomes: objective response rate (ORR), disease control rate (DCR), immune-related adverse events (irAEs), and prognostic factors.
- Survival was estimated using the Kaplan–Meier method and compared using log-rank tests.
- Independent prognostic factors were assessed using multivariable Cox regression.



CONCLUSION

- Over 25 years, first-line treatment for ES-SCLC shifted from chemotherapy alone to an immunotherapy-based multimodal strategy, accompanied by a substantial improvement in survival.
- In the immunotherapy era, first-line chemoimmunotherapy was associated with significantly longer PFS1 and OS than chemotherapy alone. TRT provided additional survival benefit and remained independently associated with improved outcomes.

ACKNOWLEDGEMENTS

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RESULTS

Treatment patterns and survival

- Following the introduction of first-line immunotherapy, chemoimmunotherapy rapidly became the predominant treatment strategy.
- In the immunotherapy era, 158/283 patients (55.8%) received first-line chemoimmunotherapy.
- Financial constraints(30.0%)** were the most common reason for not receiving immunotherapy, followed by combined contraindications(28.0%).
- With the progress of treatment mode, the PFS and OS of ES-SCLC patients were prolonged.

Figure 1. Evolution of first-line treatment and reasons for not receiving immunotherapy.

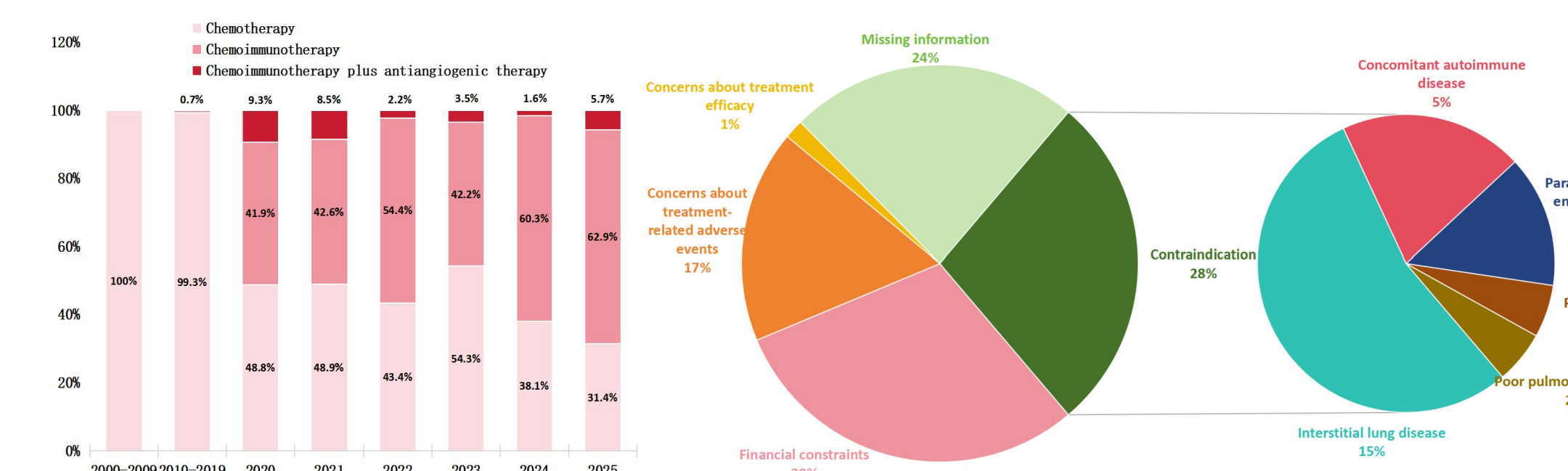
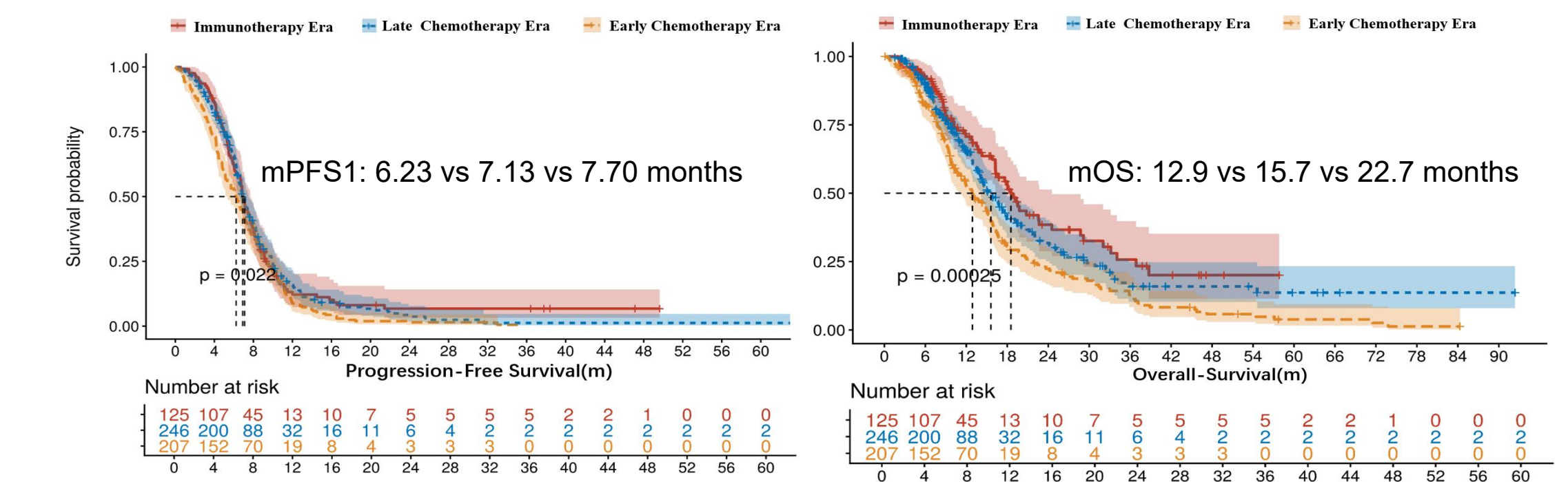


Figure 2. Kaplan–Meier estimates of first-line PFS and OS across the three treatment eras.



Efficacy in the immunotherapy era

- Chemoimmunotherapy was associated with significantly longer PFS1 and OS than chemotherapy alone (p<0.05).
- First-line TRT was associated with longer PFS1 and OS, with the chemoimmunotherapy plus TRT group showing the most favorable trend in disease control (p<0.01).

Figure 3. Real-world PFS and OS with first-line treatment in the immunotherapy-era

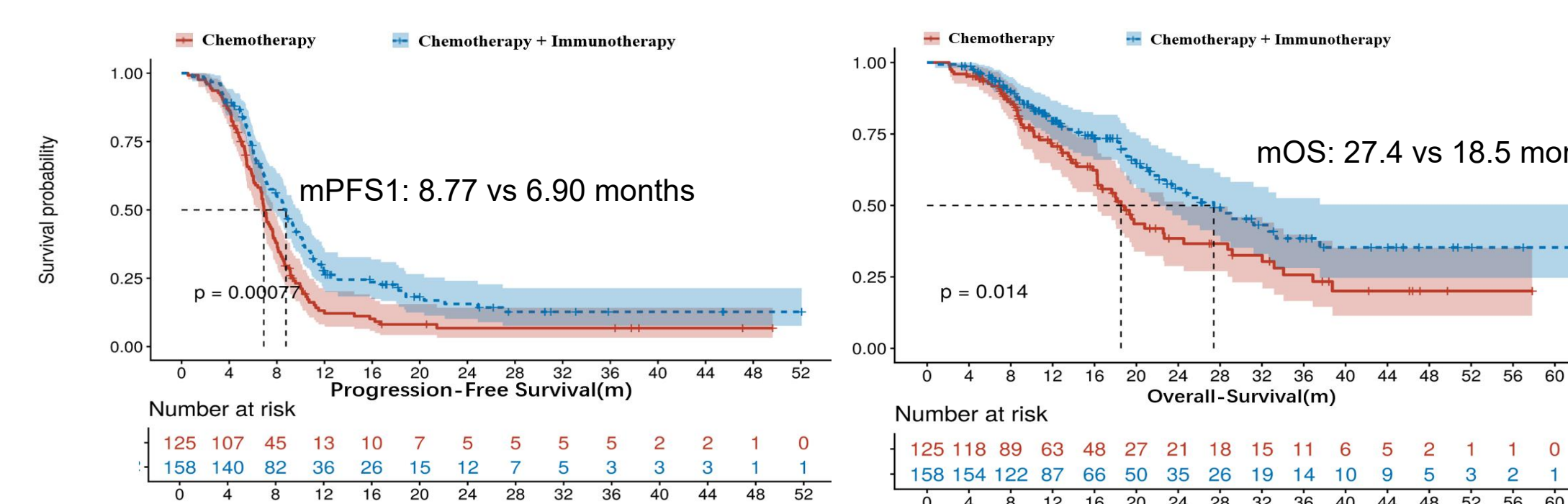
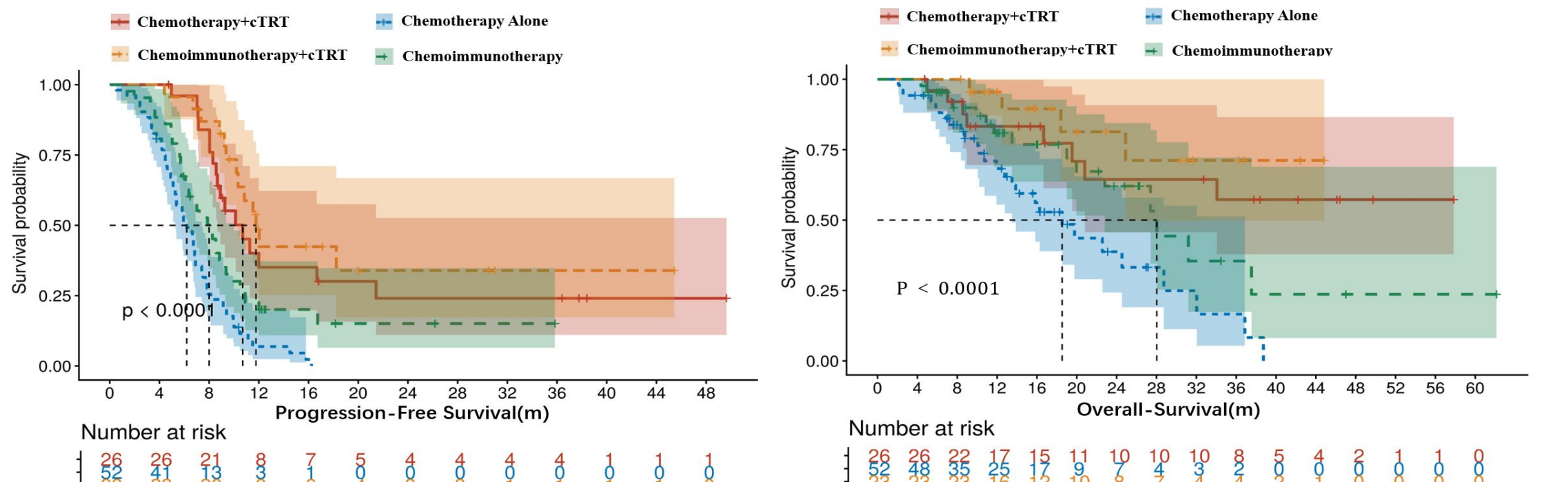


Figure 4. Survival outcomes associated with TRT in patients without extrathoracic metastases.



Independent prognostic factors

- For OS, **first-line TRT** was associated with a lower mortality hazard (HR 0.491).
- For PFS1, **first-line chemoimmunotherapy (HR 0.568), TRT (HR 0.529), and immunotherapy plus antiangiogenic maintenance (HR 0.415)** were independently associated with longer PFS1.

Figure 5. Multivariable Cox regression analysis of (a) OS and (b) PFS1 in the immunotherapy era cohort.

