



Neoadjuvant Lattice Spatially Fractionated Stereotactic Body Radiotherapy Plus Toripalimab-Based Immunochemotherapy for Resectable NSCLC: The LATTICE-NeoTORCH Phase 2 Trial

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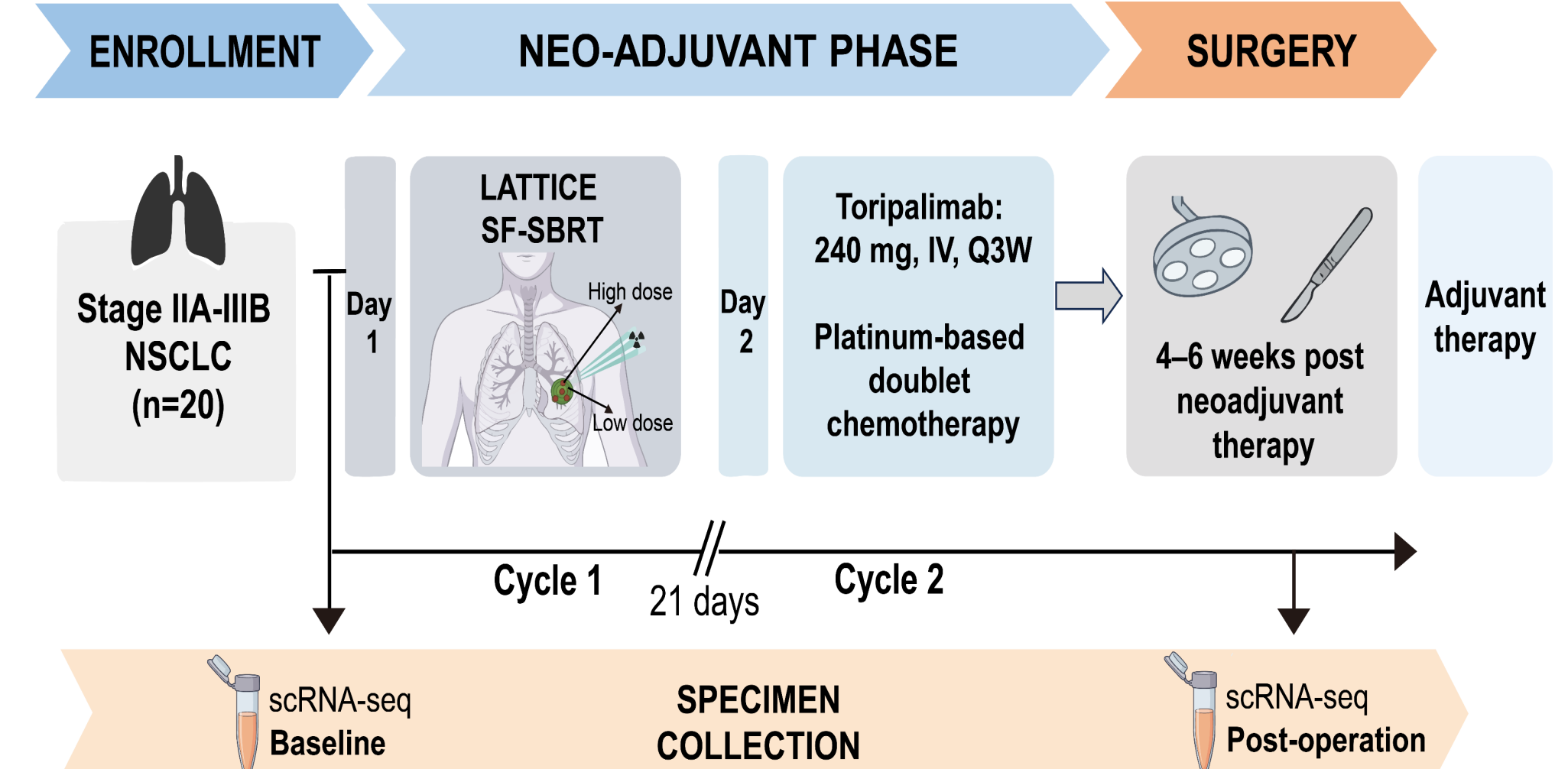
INTRODUCTION

- Current neoadjuvant immunochemotherapy improves outcomes in resectable NSCLC, but pCR rates remain limited.
- Spatially fractionated stereotactic body radiotherapy (SF-SBRT) may induce immunogenic cell death and remodel the tumor microenvironment.
- This study evaluated the efficacy, safety, and immune effects of adding SF-SBRT to neoadjuvant toripalimab-based immunochemotherapy.

METHODS

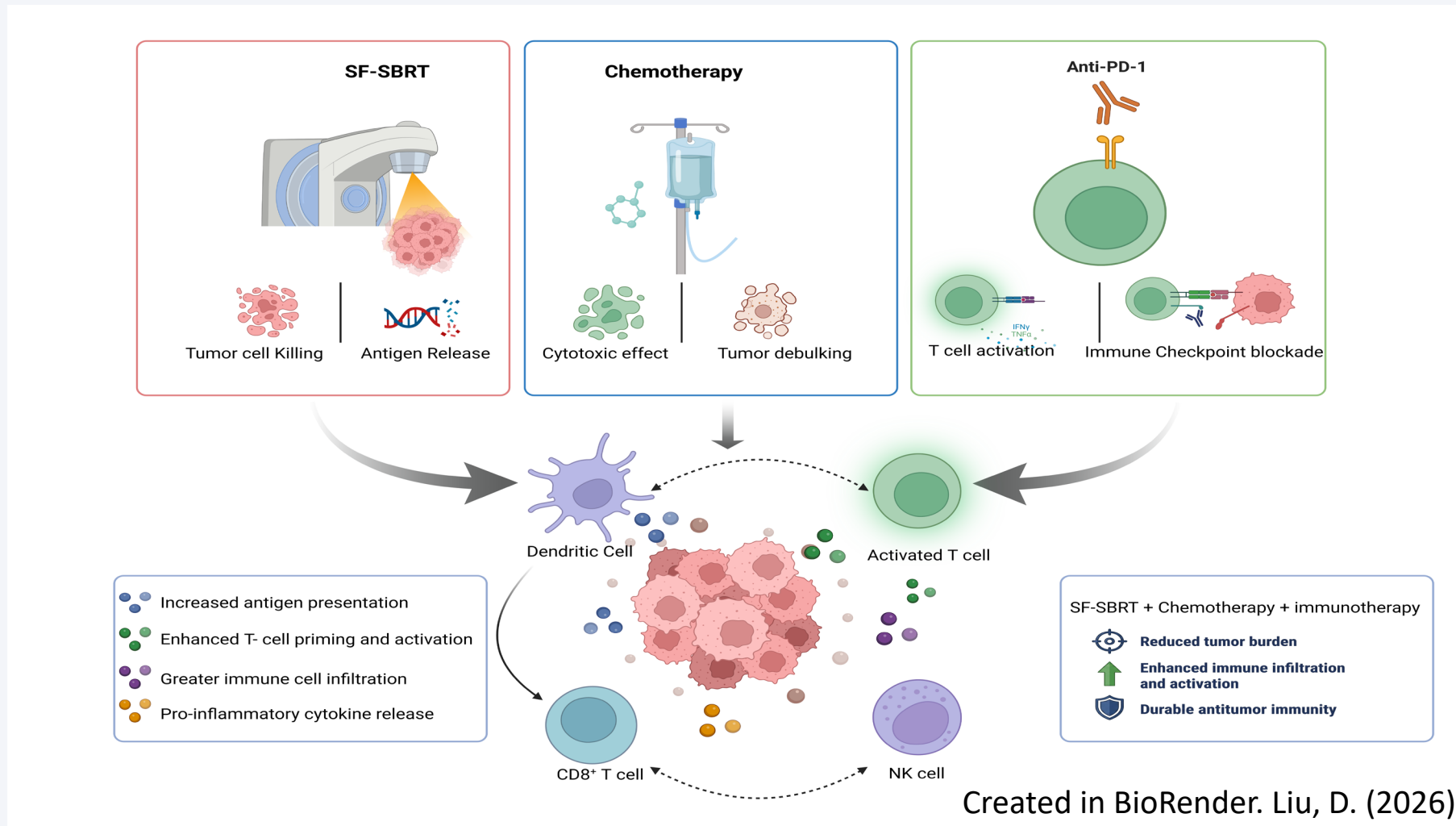
Design:

- A prospective, single-center phase II study in patients with resectable stage IIA–IIIB NSCLC (NCT06293690).
- Treatment regimen:** lattice SF-SBRT on day 1, and toripalimab plus platinum-doublet chemotherapy on day 2, every 3 weeks for two cycles, followed by surgery.
- Primary endpoint:** MPR.



DISCUSSION AND CONCLUSION

- Neoadjuvant lattice SF-SBRT combined with toripalimab-based chemoimmunotherapy was feasible and yielded high pathologic response rates with an acceptable safety profile.
- Future studies should optimize SF-SBRT dose distribution, fractionation, and sequencing, and explore biomarker-guided patient selection using immune signatures.



REFERENCES & ACKNOWLEDGEMENTS

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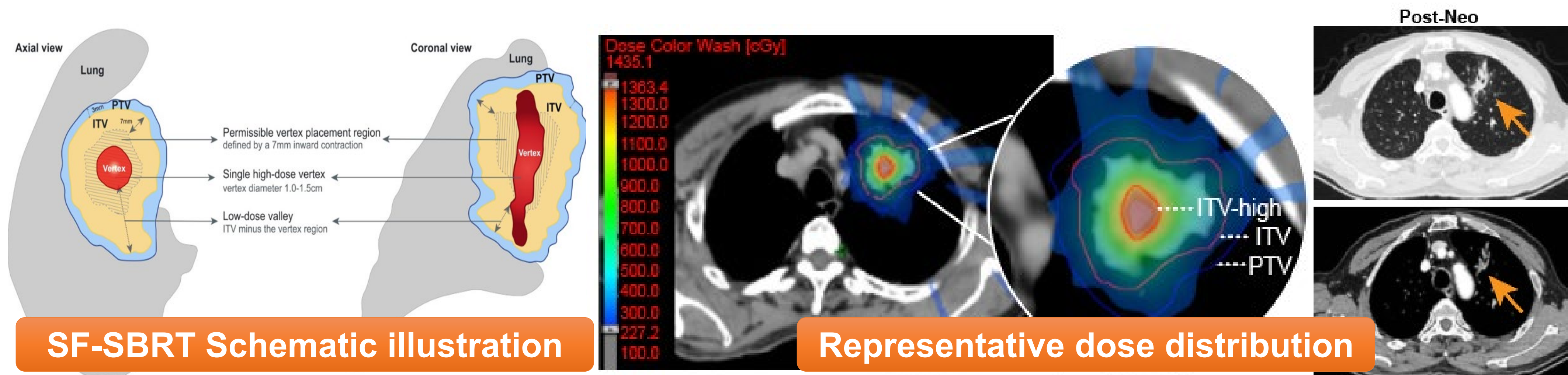
The authors confirm that no artificial intelligence (AI) software was used in the development of this material.

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RESULTS

Novel Strategy: SF-SBRT was incorporated into neoadjuvant toripalimab-based immunochemotherapy for resectable NSCLC.



High Efficacy and Manageable safety: 95% MPR, 55% pCR, and 100% objective response. Grade 3–4 TRAEs occurred in 15% of patients, with no grade ≥ 2 radiation pneumonitis.

Immune Remodeling: SF-SBRT was associated with TME remodeling, enhanced cytotoxic T-cell activity, and reduced immunosuppressive cell populations.

