



2026-RA-2653-WCLC: Favorable Safety Profile and High Local Control with SBRT for Lung Lesions in Patients with Interstitial Lung Disease

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INTRODUCTION

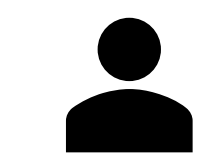
Interstitial lung disease (ILD) is associated with an increased risk of lung cancer and poor prognosis. Treatment options are often limited by impaired pulmonary function and treatment-related morbidity. Although SBRT provides excellent local control for early-stage lung cancer, patients with ILD, particularly IPF, have an increased risk of severe or fatal radiation pneumonitis. Therefore, the safety of SBRT in this population remains uncertain.

Aim

To evaluate **treatment-related adverse events, pulmonary function changes, and local control** following SBRT for lung lesions in patients with underlying ILD.

METHODS

Design:

 **11 patients with co-existing ILD** who underwent SBRT for lung lesions between March 2020 - November 2025 were retrospectively analyzed

SBRT & Motion Management

- 4D-CT respiratory gating: 54%
- Breath-hold technique: 46%

Clinical Assessment

- **Pulmonary function tests (PFTs):** pre- and post-SBRT
- **ILD severity:** ILD-GAP index
- **Adverse events:** CTCAE v5.0
- **Radiologic response:** RECIST v1.1

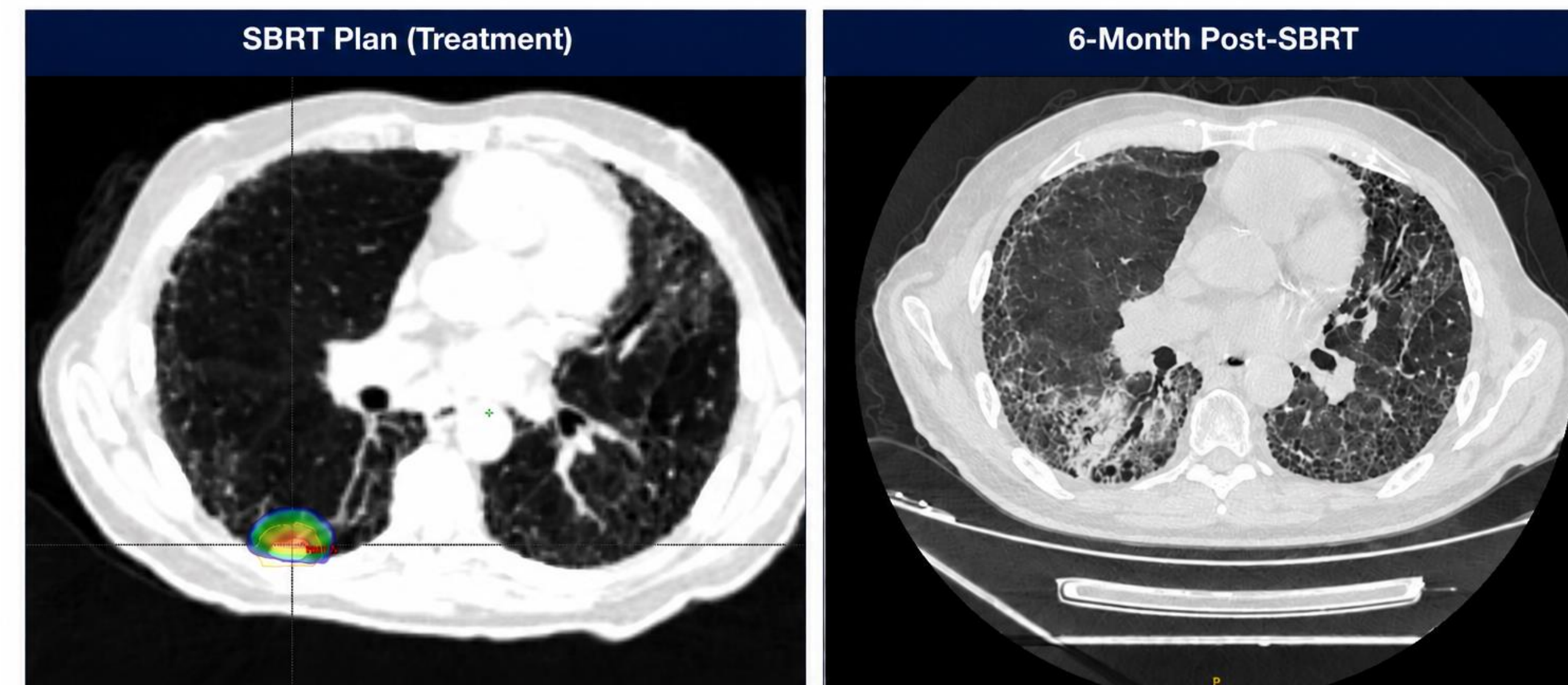


Figure 1. Representative axial CT images of a patient with interstitial lung disease (ILD) undergoing stereotactic body radiotherapy (SBRT) for a peripheral lung lesion. Left: SBRT treatment plan showing the target volume and dose distribution. Right: CT obtained 6 months after SBRT, demonstrating post-treatment changes with **complete radiologic response of the treated lesion**.

CONCLUSION

- SBRT achieved high local control with an acceptable AE profile in this small cohort of patients with co-existing ILD.
- Despite significant post-SBRT declines in pulmonary function, these changes were not accompanied by clinically meaningful increases in CTCAE-graded AE.
- No significant association was observed between treatment-related AE and baseline PFTs or lung dose parameters.

★ **Overall, these findings suggest that SBRT may be a feasible treatment option for carefully selected patients with ILD, with appropriate treatment planning and close follow-up.**

ACKNOWLEDGEMENTS

Artificial Intelligence (AI) Use Disclaimer
No AI tool has been used for this study and poster presentation

RESULTS

- 11 patients with 12 treated* lung lesions
**One patient underwent SBRT for two separate lesions at different time points.*
- Male: 82% (9/11)
- Median age: 64 years (range: 54–78)
- ECOG PS: 0 (33%) | 1 (67%)
- Median ILD-GAP score: 3 (range: 2–4)
- Median DLCO: 45% (range: 24–54%)
- Active systemic treatment for ILD before SBRT: 82% (9/11)

Tumor & Treatment Characteristics

- Median tumor diameter: 19 mm
- Median PTV: 27 cc
- Lung dose exposure:
MLD 1.6 Gy | V5 8.8% | V10 3.7% | V20 1.3%

Oncologic Outcomes

- Median follow-up: 19 months (range: 4–62)
- **Local control: 91.7% (11/12 lesions)**

Toxicity & Pulmonary Function

Toxicity	Acute, n (%)	Late, n (%)
Grade 1 dyspnea	2 (18%)	3 (27%)
Grade 2 dyspnea	0	1 (9%)
Grade ≥3 AEs	0	0

• Median declines in FEV₁, FVC, and DLCO: 10%, 4%, and 5.5%, respectively

• Treatment-related AEs were **not significantly associated with baseline PFTs (p > 0.1) or lung dosimetric parameters (p > 0.2).**