



EP.08.05: Effectiveness and safety of percutaneous CT guided thermal ablation in the treatment of early stage lung cancer

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INTRODUCTION

Thermal ablation is a minimally invasive treatment for patients with inoperable localized NSCLC. This retrospective study was performed to evaluate the effectiveness and safety of thermal ablation in our institution.

METHODS

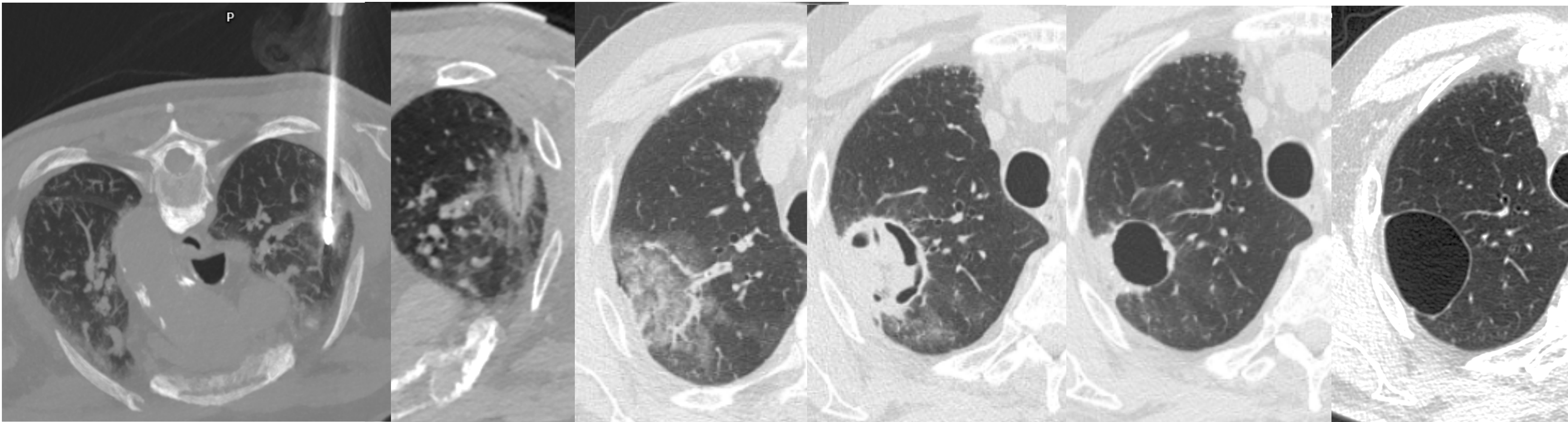
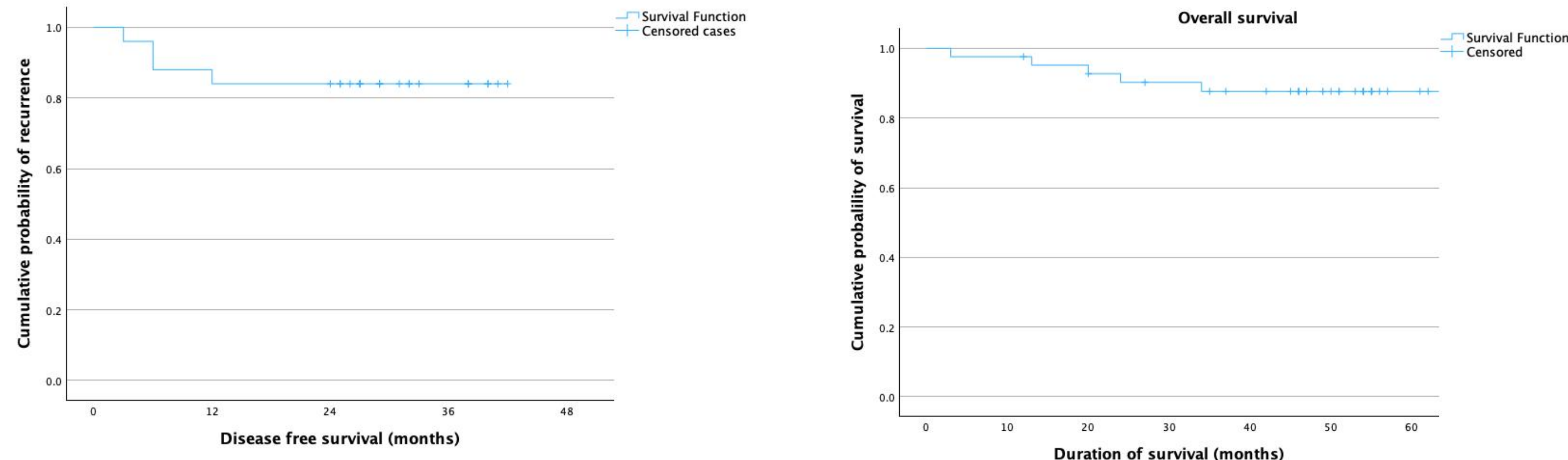
Patients with a biopsy-proven stage IA inoperable NSCLC were treated with microwave ablation (MWA) between January 2019 and January 2022. Staging was established by a positron emission tomography-computed tomography (PET-CT) prior to the thermal ablation. The primary objective was to evaluate the local control rates of MWA at 1-year, 2-year, overall survival (OS), disease free survival (DFS), recurrence and complications rates. Treatment outcome was evaluated based on follow-up contrast-enhanced CT studies and PET-CT scans. Complications requiring immediate treatment were recorded.

RESULTS

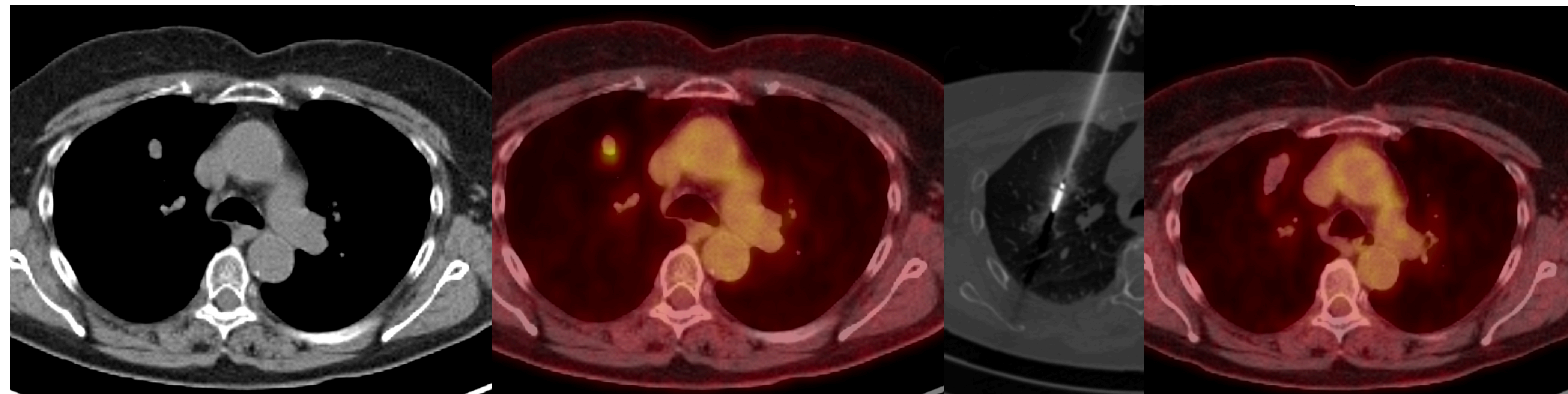
Forty two patients (M:F = 28:14; mean age 72.75±7.82 years) were treated with CT-guided MWA. The average size of the lesion was 2.02±0.60cm (range: 1.2-3 cm). No procedure-related mortality occurred. The overall complication rate was 23.8%; in detail pneumothorax, haemorrhage and low-grade fever were the most common post-ablation complications, with an incidence rate of 14.3%, 7.1% and 7.1% respectively. The average disease-free survival (Diag. 1) was 60.72 ± 3.91 months (95%CI ,53.05 -68.39 Kaplan-Meier). The overall survival (Diag. 2) was 66.34 ± 2.83 months (95%CI: 60.78-71.89 Kaplan-Meier). The 1-year 2-years and 3-years OS rates were 98%, 93% and 88% respectively, while the rates of local control were at 1-year, 2-years and 3-years 88%, 81% and 81% respectively. During the follow-up imaging, recurrence occurred in eight patients (19%) with a median time to recurrence being 9.6 months.

CONCLUSION

MWA therapy is a promising and safe treatment option for early-stage NSCLC.



Thermal ablation of a T1a biopsy-proven adenocarcinoma in the right upper lobe. Post-procedural morphological changes in 1,3,6,12 and 24 months. Progressive decrease in size of the thermal zone with cavity formation and with no soft tissue component.



Baseline CT Baseline PET-CT MWA treatment PET-CT 6 months

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