

CT-Guided Microwave Ablation: A Safe and Effective Tool for Treatment of Small Renal Masses



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Introduction

- The increased utilization of abdominal imaging has resulted in higher rates of incidental detection and subsequent intervention for small renal masses.
- Though less research has been made available in comparison to other ablative methods, CT-guided microwave ablation has repeatedly proven to be a time efficient, less invasive treatment option for these incidentally found masses.

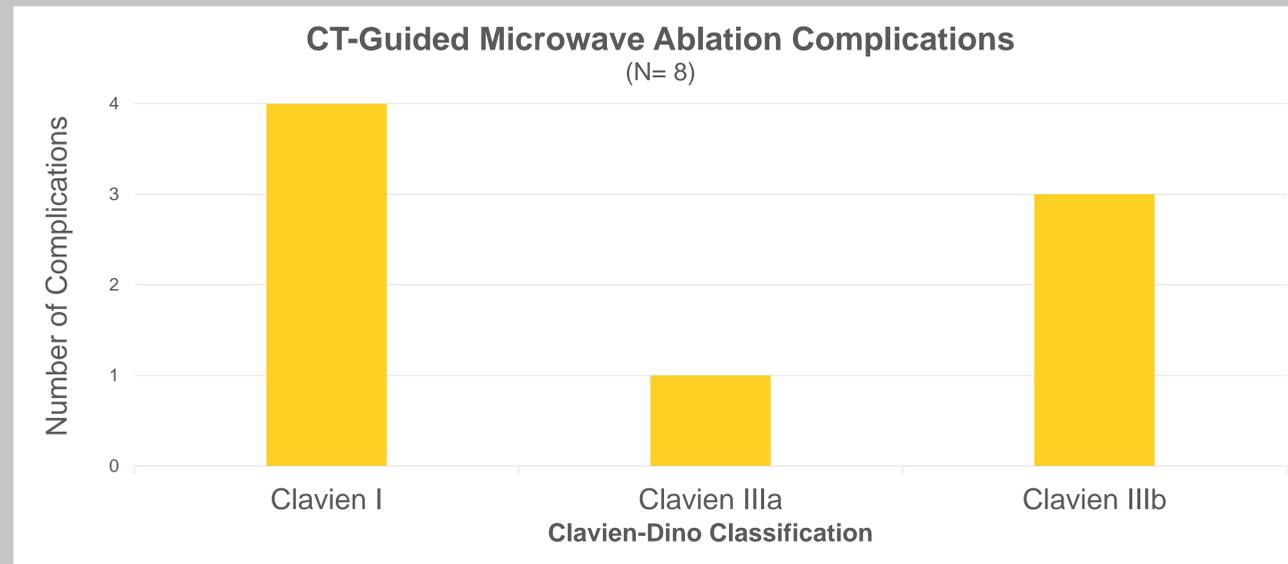
Objective

Our research aimed to clarify the safety and efficacy of CT-guided microwave ablation.

Methods

- We performed a retrospective chart review of patients within the LSU Health Sciences network who presented with evidence of a renal mass on imaging and subsequently underwent same day renal mass biopsy (RMB) with or without CT-guided microwave ablation between the years of 2015 and 2022.

Results



Of the **184** patients who underwent RMB, **8** of the **95** patients (**8.42%**) who underwent CT-guided microwave ablation experienced complications. **38.95%** of renal masses in the ablation group had final pathology that was benign. **13.78%** of patients with malignant pathology experienced local recurrence with ablation.

Clinical Features

Median Patient Age:	73 (IQR 67- 79)
Patient Sex:	58.95% Male, 41.05% Female
Patient Race:	85.26% White, 9.47% Black
	5.27% Other
Median Mass Size:	2.40 cm (IQR 1.80- 2.90)

Conclusion

- Our data supports CT-guided microwave ablation as a reasonable treatment option for small renal masses.
- Microwave ablation is safe, with a major complication rate of 4.2%.
- Local recurrence rate for microwave ablation was higher than what has historically been reported for other ablation types. This warrants further study.
- A high proportion of the small renal masses in this study were benign. While microwave ablation spared patients from more invasive treatment of non-malignant masses, work to limit overtreatment is needed
- As AUA guidelines from 2021 currently lack solid evidence for encouraging usage of microwave ablation, additional research should be conducted to characterize its utility in treatment.