

ENDOUROLOGY & LAPAROSCOPY

doi: 10.1590/S1677-55382010000500016

Cryoablation vs. radiofrequency ablation for small renal masses

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Acad Radiol. 2010; 28 [Epub ahead of print]

Rationale and Objectives: Cancer of the kidney is the third most common cancer of the urinary tract, and renal cell carcinoma is the most lethal of all genitourinary tumors. The incidental discovery of renal cell carcinoma has increased with increased use of cross-sectional imaging. Concomitantly, minimally invasive ablative technologies, including image-guided cryoablation, radiofrequency ablation, and others, have evolved as therapeutic options for small renal masses.

Materials and Methods: Between 2006 and 2009, 111 patients (age range, 31-91 years; mean age, 70 years) underwent percutaneous computed tomography-guided thermal ablation for suspected renal cell carcinoma at two major academic centers. Outcomes data were retrospectively collected and analyzed to compare recurrence rates for patients undergoing radiofrequency ablation (n = 41) versus cryoablation (n = 70).

Results: There were four cases of suspicious enhancement on follow-up computed tomography or magnetic resonance imaging in each group, with cumulative imaging recurrence rates of 11% and 7% for radiofrequency ablation and cryoablation, respectively. Log rank test analysis revealed no significant difference between rates of imaging recurrence between the two groups (P = .6044).

Conclusions: These results suggest that the use of cryoablative technology will result in similar outcomes compared with radiofrequency ablation.

Editorial Comment

Renal masses have been increased in incidence in the last 50 years due to advances in imaging technology. From large incisions excisions and surgical procedures we have evolved as specialty to minimally invasive organ sparing surgery.

Ablative technology has emerged as alternative treatment modality to manage and treat small renal masses.

This paper describes the percutaneous ablative cryo and RFA outcomes for the treatment of renal masses.

As described by other centers the outcomes are consistent with the findings. The main concern is the participation of Urologists when these procedures are occurring and also the follow-up and management of complications when urologists are not involved from the beginning. The patient will benefit from any procedures when the diseases are treated by the specialists or group of specialists that understand the illness rather than application of technology.

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