



## Sowing the Seeds: Metastatic Implants Along a Cryoprobe Tract; A Rare Complication of Percutaneous Renal Cryoablation

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Needle tract metastases can be a rare complication following percutaneous procedures for renal malignancies. We report a case of cryoprobe tract tumor seeding following cryoablation of a small biopsy proven renal cell carcinoma. *UROLOGY* 131: e3–e4, 2019. © 2019 Elsevier Inc.

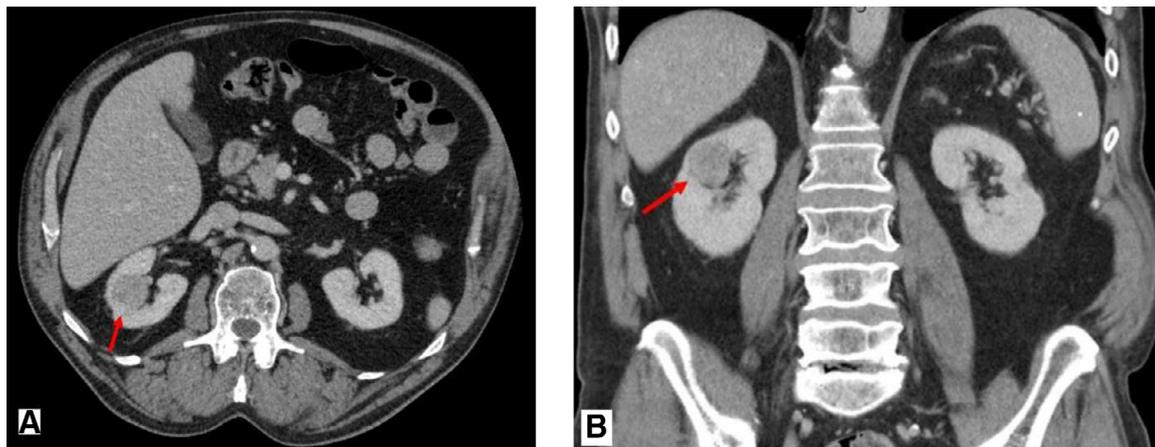
### CASE

A 76-year-old patient was found to have an enhancing right renal mass on computed tomography (CT) measuring, 2.6 × 2.8 cm (Fig. 1). Percutaneous needle biopsy confirmed diagnosis of clear cell renal cell carcinoma, grade 3. Metastatic evaluation was negative. Interventional Radiology performed CT-guided percutaneous cryoablation of the cT1a tumor.

Surveillance CT one-year post-ablation demonstrated new enhancement and nodularity of the index lesion concerning for recurrence (Fig. 2). Repeat percutaneous renal cryoablation was performed.

Four-month follow up CT demonstrated persistent residual enhancing nodularity within the kidney, new retroperitoneal lymphadenopathy and new nodules along the cryoprobe tracts (Fig. 3). Patient was referred to medical oncology; he is awaiting interval imaging to assess response to systemic targeted therapy.

Rate of local recurrence following renal ablative procedures is 3.7% comparable to partial nephrectomy.<sup>1,2</sup> No contemporary series among percutaneous renal cryoablation have reported needle tract seeding for renal cell carcinoma.<sup>1</sup> To our knowledge, this is the first reported case of renal cell carcinoma tumor metastases



**Figure 1.** Pre-treatment axial (A) and coronal (B) CT image with arrow marking renal mass.

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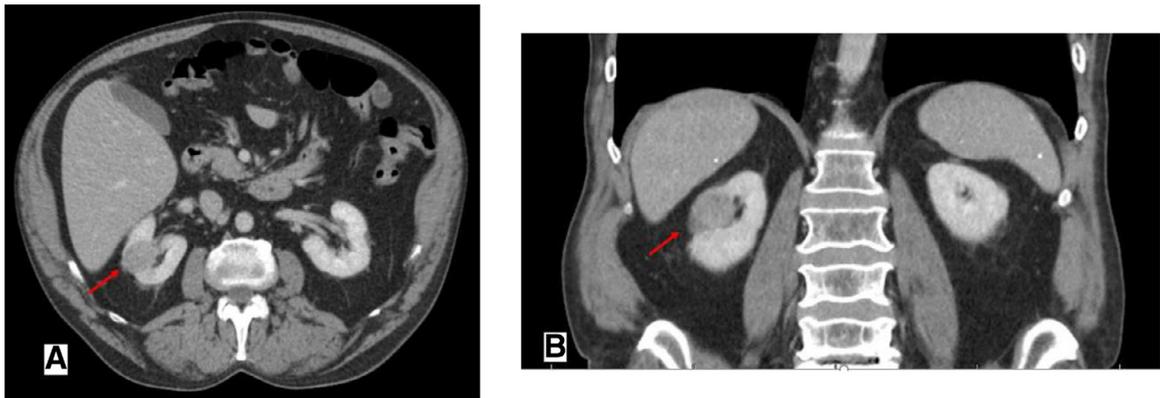
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along the percutaneous cryoprobe tract. This phenomenon has been reported with renal mass biopsy, however.<sup>3</sup> Albeit rare, percutaneous manipulation of renal cell carcinoma, whether with ablation or biopsy, may pose a risk for needle-tract tumor seeding.

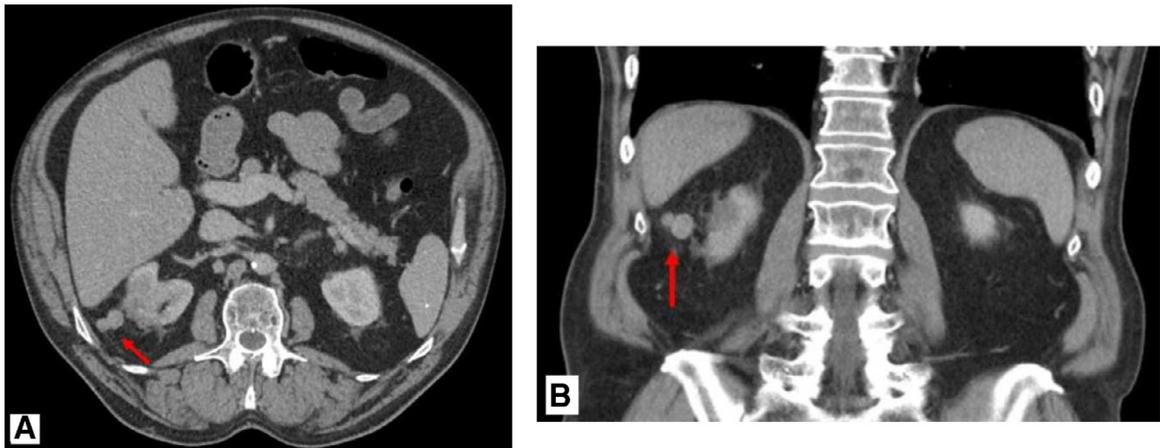
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**Figure 2.** Initial surveillance CT with arrow demonstrating recurrence, axial (A) and coronal (B).



**Figure 3.** Post-treatment axial (A) and coronal (B) CT image with arrow marking cryoprobe tract metastases.

### References

1. Schmit GD, Thompson RH, Kurup AN, et al. Usefulness of R.E.N.A. L. nephrometry scoring system for predicting outcomes and complications of percutaneous ablation of 751 renal tumors. *J Urol.* 2013;189:30–35.
2. Marszalek M, Meixl H, Polajnar M, Raucherwald M, Jeschke K, Madersbacher S. Laparoscopic and open partial nephrectomy: a matched-pair comparison of 200 patients. *Eur Urol.* 2009;55: 1171–1178.
3. Liu H, Pan W, Shen X, Zhang N. A large number of metastatic subcutaneous nodules: a complication of percutaneous biopsy for atypical renal cell carcinoma. *Urol J.* 2018. Nov 21 .