Salvage Surgery after Energy Ablation for Renal Masses


Department of Urology, University of Texas MD Anderson Cancer Center, Houston, Texas


OBJECTIVES: To evaluate the feasibility, safety, pathological, radiological and functional outcomes of salvage surgery after previous renal mass ablation therapy.

PATIENTS AND METHODS: After institutional review board approval, we reviewed our renal tumour database, and described the characteristics and outcomes of patients who experienced a local recurrence after energy ablation for renal masses and underwent salvage surgical therapy.

RESULTS: A total of 14 patients fit the inclusion criteria. The median (interquartile range [IQR]) age was 65 (59-77) years, with a median (IQR) Charlson comorbidity index score of 2 (0.75-3.00). Three patients had a solitary kidney. Seven patients received their ablation therapies at an outside institution. Ten patients had undergone percutaneous radiofrequency ablation, three percutaneous cryoablation and one laparoscopic cryoablation. The median (IQR) R.E.N.A.L. nephrometry score at time of surgery was 7 (5-9), while the median (IQR) time from ablation to surgery was 26.5 (16.3-39.3) months. Of the 14 patients, 11 underwent partial nephrectomy and three underwent planned radical nephrectomy. The median (IQR) surgery time was 203 (177-265) min and the median length of stay was 5.5 days. There was one microscopic positive surgical margin. The median tumour size at final pathology was 3.1 cm. In all, 13 patients had renal cell carcinoma and one had no tumour present. Nine were pT1a, 1 pT1b, 2 pT3a, and 1 pT3b tumours. There were four Clavien grade III complications in four patients. The median preoperative estimated glomerular filtration rate (eGFR) and the eGFR at last follow-up were 66 and 66 mL/min/1.73 m². There had been no deaths by the median (IQR) follow-up of 26.5 (10.5-49.5) months.

CONCLUSIONS: Patients who have undergone previous renal ablation therapy can be salvaged with partial or radical nephrectomy with good intermediate-term outcomes. These procedures may be associated with a high rate of adverse events. Longer follow-up is necessary.