

**PP-44**

**Oncological and functional results of RFA for small renal masses in solitary kidneys. A single-center experience of 35 ablations in 29 patients**

T. Van den Broeck, T. Tailly, S. Joniau

**Objectives:** To analyze oncological and functional outcomes of radiofrequency ablation (RFA) for small renal masses (SRM) in patients with solitary kidneys.

**Material & Methods:** We retrospectively analyzed clinical data from 29 patients with solitary kidneys who underwent RFA for SRM between 2003 and 2013. We analyzed population characteristics, GFR evolution in the first postoperative year, overall survival (OS), cancer-specific survival (CSS), local recurrence in the ablation zone (LR) and clinical failure (CF). Clinical failure was defined as residual enhancement at the lesion site on first postop imaging, local or kidney recurrence or the presence of distant metastases.

D'Agostino-Pearson test was used for descriptive statistics. OS, CSS, local recurrence and CF were estimated using the Kaplan-Meier method.

**Results:** Thirty-five lesions were treated in 29 patients. Median age at RFA was 66 yrs. (IQR 59.5-74.0). Median follow-up was 34 months (IQR 18.5-66.5). Of the group, 93% (n= 27/29) had a history of proven RCC. Before the procedure, 31% (n=9/29) of patients were biopsied of which 5 had biopsy proven RCC. In the two patients who had no previous RCC history, a biopsy was performed but was not representative for correct pathological assessment. LR was seen in 7% (n=2/29), but kidney recurrence outside the ablation zone was seen in 35% (10/29). Four of those patients underwent a repeat RFA; 2 of them died cancer-related and 2 are still under observation. Six were not retreated; 1 of them died of non-cancer-related death, 1 died cancer-related and 4 are still under observation. CF however occurred in 48% (n= 14/29), translating into a 4-year freedom from CF of 36%. This observation demonstrates that these patients frequently experience recurrence outside the ablation zone. OS and CSS at 4-yrs. were 70% and 85%, respectively.

Median preoperative GFR was 47 (IQR 36-64). At 3 months, GFR had decreased to 43.5 (IQR 34-58) ( $p=0.014$ ) and remained stable at 44 (IQR 40-65) at 1 year ( $p=0.68$ ).

**Conclusions:** In the present series of SRM in solitary kidneys, RFA was associated with a very low local recurrence rate. Seen the fact that patients almost exclusively had a history of RCC, cancer recurrence outside of the ablation zone was very frequent. Nevertheless, cancer control remained possible through repeat ablation at a low cost renal function loss. Cancer-specific survival at 4 years was 85%, while OS was 70%.