EO4 Clinical outcomes of ultrasound-guided radiofrequency ablation for the treatment of small renal masses

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Introduction & Objectives: The diagnosis of small renal masses has been increasing in recent years, mainly due to the widespread use of imaging tests. The gold standard of treatment is partial nephrectomy, a technique which is not exempt from complexity and morbidity. The increase in patients with high surgical risk or who do not want this type of treatment makes percutaneous ablative treatments such as radiofrequency begin to be used as an effective therapeutic alternative in these cases. We present our experience using contrast-enhanced ultrasound (CEUS) as a pillar in the diagnosis, control of ablation and subsequent follow-up.

Materials & Methods: We performed a retrospective and descriptive analysis of 70 patients treated with ultrasound-guided radiofrequency in our centre; analysing the variables: sex, age, baseline creatinine, histology, size ... All of them underwent a pre-treatment CEUS and a month after the ablation. Subsequently, follow-up was performed with CEUS in case of benign histology and alternating CT and ultrasound in cases of malignancy. We process data with SPSS 25.

Results: We analysed 70 patients (65,7% men and 34,3% women); with an average age of 65 years (34 - 84). The mean baseline creatinine was 2,52 mg/dL, with standard deviation (SD) of 0.94, and an average glomerular filtration rate of 78,37 mL/min, SD 23.81; only 14% have solitary kidney. With regard to histology, 32,4% were clear cell carcinomas, 19,6% papillary, 19,3% oncocytomas, 11,3% chromophobes, 2,4% angiomyolipoma and 15% inconclusive biopsy; 90,3% were T1a and only 2,8% T1b tumors, with an average size of 21.05 mm (4-45 mm), SD 8,66. 90,2% of patients were discharged the day after the procedure, without developing complications. The control imaging test prior to the procedure and after ablation was a CEUS in the 70 cases: we obtained 92,7% of complete ablations with one session. After a median follow-up of 12 months (range of 1 – 41), we had only one patient who had local recurrence, treated with another session.

Conclusions: CEUS is a useful technique in the diagnosis and monitoring of renal masses treated with radio-frequency. Ultrasound-guided ablation is a good alternative treatment of small masses in patients selected for their low rate of complications and good oncological results after a median follow up of 12 months with low rates of recurrence.