

Percutaneous ablation of renal tumors in von Hippel Lindau disease

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Purpose: to evaluate the performance and complication of percutaneous ablation of renal tumors in patients presenting with in von Hippel Lindau (vHL) disease

Material and Methods: Over a consecutive series of 1386 procedures of renal tumor ablation (2004-2020), 336 were performed in patients presenting with vHL. The characteristics of the included population and of the procedure were collected. Follow-up examination was performed at day 1 (detection of early complications), 2 – 6 – 12 months, and yearly combining contrast-enhanced CT and MRI, as well as Contrast-enhanced US depending upon the renal function.

Results: The population age was ranging from 18 to 87 years (mean 44 ± 12.9 years) and body mass index was ranging from 15 to 39 (mean $25 \pm 4,05$). The number of comorbidity factors was ranging from 4 to 11 (mean 7 ± 2). Serum creatinine level/estimated Glomerular Function Rate (estimated using the MDRD function) before the procedure was 72 ± 27 mg/ml (min 42 max 276). Numbers were not significantly changed after the ablation procedure. The volume of the lesion was ranging from 0.6 to 74 cm³ with a mean 6 ± 8.6 cm³. About 40 % of the lesions were in contact with the excretory system but ureteral stenting was performed for only 25 procedures. The lesion was close to the bowel structure in 18.5% (61 cases) of the cases but hydrodissection was only performed for 28 procedures.

All procedures were performed percutaneously under conscious sedation, 299 using radiofrequency ablation (CoolTip RF system), 12 using MWA and 25 treated with cryotherapy. Primary and secondary success rates were 89% and 95% respectively. Complications were rated according to the Clavien-Dindo scoring system. No Clavien-Dindo 4 and 5 were reported. Total complication rate was 14% including Clavien-Dindo 1: 12% (non-significant peri-renal hematoma; hematuria; limited urinary fistula; acute renal failure), Clavien-Dindo 2: 1% (urinary tract fistula) and Clavien-Dindo 3: 0.5% (uro-pleural fistula).

Conclusion: Percutaneous ablation of renal tumors in vHL patients in a safe and effective procedure, that preserves renal function.