SHORT-TERM ONCOLOGICAL EFFICACY OF MINIMALLY INVASIVE THERAPIES FOR RCC

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Introduction: Needle ablative therapy has recently generated a lot of interest in the urologic community. Treating kidney tumors by keyhole surgery with freezing or heating is emerging as an alternative option for selected patients requiring nephron sparing surgery.
Objective: We compared perioperative and short-term outcomes of laparoscopic cryoablation (LCA) versus laparoscopic radiofrequency ablation (LRFA) in patients with peripheral small renal tumors (T1a).
Methods: Between September 2009 and September 2011, 81 patients underwent minimally invasive nephron-sparing surgery. We performed retroperitoneoscopic, ultrasonic guided cryoablation and radiofrequency ablation. Prospectively acquired data of patients with a small renal tumor (under 4 cm) undergoing LCA (group 1, n=46) or LRFA (group 2, n=35) were compared in terms of success of ablation based on contrast CT-scan criteria, retreatment rates, and tumor recurrence.
Results: Radiographic success (no evidence of contrast enhancement) was reported in 95.65% (44/46) Group 1 and 88.6% (31/35) Group 2 at 14.8-month mean follow-up ($p = 0.22805$). Repeated ablations were required in fewer patients treated by cryotherapy than RFA (2.17% [1/46] vs. 8.57% [3/35], $p =0.220408$). Furthermore, 4.34% (2/46) of cryotherapy-treated patients had local tumor progression (radiographic or pathological evidence of residual disease after initial treatment) compared with 11.4% (4/35), treated by RFA ($p = 0.22805$).
Conclusion: Radiofrequency ablation and cryoablation appear to be similar in terms of safety and effectiveness for treating T1a tumors. Renal cryoablation produces well-defined, completely necrotic lesions that may be monitored reliably with laparoscopic ultrasonography and may provide a better cancer control.