THREE YEAR OUTCOMES AFTER RADIOFREQUENCY ABLATION ASSISTED LAPAROSCOPIC PARTIAL NEPHRECTOMY (RFA-LPNx): A PRIVATE PRACTICE PERSPECTIVE.

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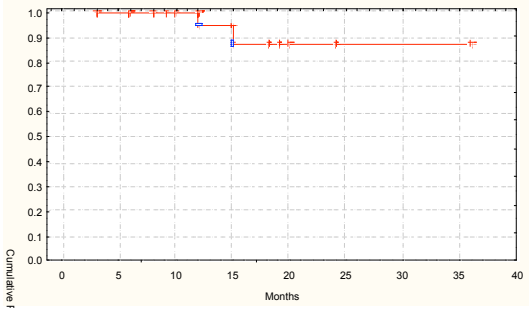
Purpose: The under utilization of nephron sparing surgery (NSS) has recently been reported (Urology 67:254-9, 2006). This practice pattern has raised quality of care concerns. The current report examines outcomes and complications after RFA-LPNx. The principle questions addressed are: 1) Can LPNx, a technically challenging procedure, be performed in the private practice setting? 2) Can LPNx be done efficiently--one surgeon under 2 hours? 3) Do the outcomes and complications match those reported in the literature? 4) Can RFA-LPNx reduce hemorrhage and improve cancer specific survival?

Materials and Methods: RFA-LPNx was performed by one surgeon in 31 consecutive renal masses over a 36 month period. A transperitoneal (27) and a retroperitoneoscopic (4) approach were utilized. The RITA Starburst™ RFA probe and dry protocol was utilized. Indications for RFA-LPNx were a contrast enhancing renal mass (< 4cm). After thermal ablation, the renal mass was laparoscopically excised and pathologically examined. Perinephric drainage of the surgical bed was performed in all patients. Before drain removal, fluid creatinine must be normal. Contrast-enhanced computed tomography scans, serum creatinine and plain chest films were obtained within 6 months post-operatively and semi-annually thereafter. Hemostatic products (e.g. Flowseal™) were utilized in 3 cases. Clamping of the renal artery was performed in only one patient. This patient had a hilar lesion and during thermal ablation demonstrated a significant heat sink.

Results: For the 31 renal tumors, the mean tumor size was 2.8 cm with an operative treatment time of 105 minutes. The estimated blood loss was 136 ml and no patient required a blood transfusion. Urinoma was diagnosed in 3 patients at an average of 13 days post-RFA-LPNx. One patient developed a symptomatic UPJ obstruction requiring ureteral stenting. Kaplan-Meier disease-free survival is 87 % at a mean follow-up of 20 months. Four patients had a "positive surgical margin". Two patients in this series have recurred based on criteria of an enhancing renal mass within the ipsilateral kidney. An insignificant increase in serum creatinine was observed (Pre-Cr: 1.25 vs Post-Cr 1.33, p=0.28). No open conversions occurred in this patient cohort.



Conclusions: In the private practice setting, RFA assisted LPN can be performed efficiently (under 2 hours, with only one surgeon), with minimal hemorrhage, minimal morbidity and with effective cancer control. This is an important observation given the reluctance of many non-university-based urologists to perform laparoscopic NSS. Nevertheless, evidence supports an over utilization of radical nephrectomy in patients with small tumors. The under utilization of NSS may represent suboptimal delivery of healthcare.