

**Transperitoneal laparoscopic radical nephrectomy for patients with dialysis-dependent end-stage renal disease: an analysis and comparison of perioperative outcome**

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**Objectives:** To evaluate LRN as treatment for high risk patients. Laparoscopic radical nephrectomy (LRN) is performed for renal tumors not amenable to nephron-sparing treatments. Indications are increasing to include higher risk patients including those with end-stage renal disease (ESRD) necessitating dialysis.

**Methods:** We performed a retrospective analysis of a patient cohort with clinical stage T1 renal tumors undergoing transperitoneal LRN. Parameters examined included patient demographics, medical comorbidities, tumor characteristics, operative outcomes, and complications.

**Results:** One hundred eighty-nine patients underwent 195 LRN. Sixteen patients (8.5%) had preexistent ESRD requiring dialysis. A higher American Society of Anesthesiologists score ( $P<.05$ ), higher age-adjusted Charlson comorbidity index ( $P=.003$ ), higher incidence of previous abdominal surgery ( $P=.012$ ), and higher incidence of hypertension ( $P=.025$ ) were found for the ESRD group. Mean blood loss was 153.0 and 132.0 mL ( $P=.71$ ) in the ESRD patients and non-ESRD patients, respectively. A longer stay ( $P=.02$ ) was noted for ESRD patients. Mean tumor size in the ESRD patients and non-ESRD patients was 2.6 and 4.2 cm ( $P<.05$ ), respectively. Renal cell carcinoma was the most common pathology in 14 of 20 (70.0%) ESRD patient renal units and 167 of 175 (95.4%) non-ESRD patient renal units ( $P=.001$ ). Intraoperative and postoperative complication rates were 6.3% and 31.3% respectively for ESRD patients ( $P=.05$ ), and 8.7% and 21.4% respectively for non-ESRD patients ( $P=.35$ ). Most postoperative complications were minor.

**Conclusions:** LRN, for the treatment of renal tumors in ESRD patients requiring dialysis, is feasible and safe with acceptable intraoperative and postoperative complication rates.

**Editorial Comment**

Laparoscopic radical nephrectomy (LRN) has become standard of care for renal tumors not amenable to nephron-sparing surgery. LRN is a safe procedure associated with low morbidity for treatment of renal cell carcinoma.

The authors report their experience with LRN as treatment modality for renal masses in high-risk patients. Particularly, patients with end-stage renal disease (ESRD) requiring hemodialysis demonstrated little to no wound complications. Moreover, the authors demonstrated that papillary subtype RCC was more frequent in the ESRD than the non-ESRD population (30% ESRD versus 13.1% of non-ESRD patients).

The transperitoneal laparoscopic approach has shown to be safe and effective to manage high-risk patients with different techniques of CO<sub>2</sub> insufflation.

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