

Laparoscopic transperitoneal partial nephrectomy for clinical T1b renal tumors: A prospective evaluation

Video can be found at <http://ceju.online/journal/10000/renal-cancer-laparoscopy-partial-nephrectomy-1251.php>

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Citation: Kumar A, Kumar N, Kumar G, Patel M, Gupta P. Laparoscopic transperitoneal partial nephrectomy for clinical T1b renal tumors: A prospective evaluation. Cent European J Urol. 2017; 70: 213.

Article history

Submitted: Feb. 2, 2017

Accepted: April 18, 2017

Published online: June 14, 2017

Key Words: laparoscopy ↔ renal cancer ↔ partial nephrectomy

The role of partial nephrectomy in clinical T1b renal tumors is still not established. Laparoscopic partial nephrectomy for clinical T1b renal tumors is a technically challenging procedure. We prospectively evaluated the feasibility, safety, efficacy, and long term oncological results of laparoscopic transperitoneal partial nephrectomy (LPN) in clinical T1b renal tumors.

All consecutive patients undergoing LPN for clinical T1b renal tumors and normal contralateral kidney by a single surgeon between June 2011 and May 2016 at our institution were included. The various clinical data including patients' demographic profile, intraoperative and postoperative data, complications, and follow up were recorded and analyzed. We are presenting a video of one such case.

A total of 53 patients were included in the study. The mean age was 51 years with mean preoperative serum creatinine and estimated glomerular filtration rate (eGFR) of 0.91 mg/dl and 73.1 ml/min/1.73 m² respectively. The mean tumor size was 5.1 cm. The tumor was mesorenal in 7 (13.2%) patients, superior polar in 25 (47.2%) patients, and inferior polar in 21 (39.6%) patients. Tumor growth pattern was cortical in 29 (54.7%) patients and cortico-medullary in 24 (45.3%) patients. The mean operating time and estimated blood loss were 129.3 min and 147.1 ml respectively. The mean ischemia time was 21.3 min.

Three (5.6%) patients were converted to open surgery. Blood transfusion was required in 5 (9.4%) patients. The mean hospital stay and mean convalescence period were 3.3 days and 1.39 weeks respectively. Positive surgical margins were seen in 1 (1.8%) patient. In histopathology, renal cell carcinoma was found in 92.4% and oncocytoma in 7.6% of patients. The intraoperative and postoperative complications were present in 5.6% and 7.5% of patients respectively and were mainly Clavien grade 1 and 2. The mean estimated GFR at 1 year was not significantly lower than that of the preoperative value ($p = 0.71$). At mean follow up of 47.1 months, there was no local or distal recurrence.

Laparoscopic transperitoneal partial nephrectomy for clinical stage T1b renal tumors is feasible, effective, with preservation of renal function, and has acceptable complications with good long term survival. However, it is a technically challenging procedure and should only be performed by surgeons with significant laparoscopic expertise.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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