

AB073. Application of IQQA three-dimensional reconstruction technique in precise laparoscopic or robotic-assisted laparoscopic partial nephrectomy for renal hilar tumors

Bo Yang, Yinghao Sun, Chao Zhang, Fei Guo, Fubo Wang

Department of Urology, Changhai Hospital, Shanghai 200000, China

Background: To evaluate the feasibility and effectiveness of the application of IQQA three-dimensional reconstruction technique in precise laparoscopic or robot-assisted laparoscopic partial nephrectomy (LPN or RAPN) for renal hilar tumors.

Methods: The study retrospectively reviewed 11 patients with hilar tumors from February 2016 to February 2017. Of the 11 patients, 4 were women and 7 were men, with an average age of 51.3 years (range, 38 to 70 years). The average tumor size was 3.1 cm (range, 1.7 to 4.3 cm). For tumor stage, nine patients were in T1a stage and two patients were in T1b stage. The average R.E.N.A.L score was 8.7 (range, 7 to 10). The mean preoperative glomerular filtration rate (GFR) was 40.6 mL/min (range, 32 to 45 mL/min). IQQA three-dimensional reconstruction technique was applied for the purpose of precise navigation and resection of the tumors. Multivariate analysis was used to identify predictors of warm ischemia time, estimated blood loss, major perioperative complications, and postoperative renal

function.

Results: All 11 laparoscopic or robot-assisted laparoscopic hilar partial nephrectomies were successfully completed without conversion to a hand-assisted or an open approach. Under the navigation of IQQA, all tumors were found precisely at the first time during surgeries. The final pathologic examination revealed that all the 11 patients were clear cell renal cell carcinomas. The mean operative time was 142 minutes (range, 90 to 230 minutes), with a mean warm ischemia time of 24.3 minutes (range, 17 to 33 minutes). The estimated blood loss was 146 mL (range, 50 to 400 mL). No intraoperative complications occurred. Two patients suffered from postoperative complications. One patient with gross hematuria was recovered by consistent bladder irrigation. The other patient with postoperative hemorrhage needed transfusion. All patients had negative margins on the final pathologic examination. At a mean follow-up period of 3 months, the mean GFR is 22.5 mL/min (range, 13 to 34 mL/min) without any disease recurrence.

Conclusions: With peculiar features, such as accurate location, complete resection and fewer perioperative complications, the application of IQQA three-dimensional reconstruction technique in precise partial nephrectomy represents a safe and effective procedure for hilar tumors.

Keywords: Renal hilar tumors; IQQA three-dimensional reconstruction technique

doi: 10.21037/tau.2018.AB073

Cite this abstract as: Yang B, Sun Y, Zhang C, Guo F, Wang F. Application of IQQA three-dimensional reconstruction technique in precise laparoscopic or robotic-assisted laparoscopic partial nephrectomy for renal hilar tumors. *Transl Androl Urol* 2018;7(Suppl 5):AB073. doi: 10.21037/tau.2018.AB073