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OPEN VERSUS LAPAROSCOPIC PARTIAL NEPHRECTOMY FOR CLINICAL T1a RENAL TUMORS: A PROSPECTIVE MULTICENTER COMPARATIVE STUDY (RECORD PROJECT)

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Aim of the study

Aim of this study is to evaluate surgical and postoperative outcomes of open partial nephrectomy (OPN) and laparoscopic partial nephrectomy (LPN) for clinical T1a renal masses in a prospective multicenter dataset.

Materials and methods

The RECORD Project is a 4-year prospective observational multicenter study promoted by SIU. The study includes all patients who underwent open or laparoscopic nephron-sparing surgical treatment for kidney cancers between January 2009 and January 2011 at 19 Italian centers. Approval of the study protocol by the local ethical committee was obtained at each centre. Conservative surgery was performed in the form of standard enucleoresection and tumor enucleation (SE) according to center's and surgeon's preference. The OPN group and the LPN group were compared regarding clinical, surgical, and pathologic outcome variables. Multivariable logistic regression models were applied to analyze predictors of WIT>20 minutes and surgical complications.

Results

In our study, 450 patients were the subject of the final analysis. Overall, 301 had OPN and 149 LPN. LPN was performed by SE in a significantly larger set of patients ($p=0.001$) and was associated with a significantly longer WIT (19.9 min vs. 15.1 min). The incidence of PSM was not significantly different between the OPN and LPN (4.2% vs. 2.2%). Overall, 86 postoperative complications were recorded (19.1%). Surgical and medical complications were 68 (15.1%) and 24 (5.3%). Surgical complication rate was higher after OPN vs. LPN but this difference did not reach the statistical significance (17.7% vs. 10.9%) and at multivariate analysis the factors independently associated with surgical complications were clinical tumor size and indication for surgery (relative/absolute vs. elective).

Discussion

This study confirms that LPN is associated with longer WIT and has similar surgical margins rate compared to OPN.

Conclusions

The laparoscopic surgical approach is an independent predictor of a WIT>20 minutes after conservative surgery for kidney cancer. In our series of T1a RCC the incidence of positive surgical margins was similar in patients treated with LPN and OPN. Surgical complication rate was higher after OPN versus LPN but this difference did not reach the statistical significance.

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LAPAROSCOPIC VS. OPEN PARTIAL NEPHRECTOMY FOR T1 RENAL TUMORS: EVALUATION OF THE LONG-TERM ONCOLOGIC AND FUNCTIONAL OUTCOMES IN 340 PATIENTS

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Aim of the study

To evaluate the long-term oncological and functional outcomes of laparoscopic partial nephrectomy (LPN) compared with open PN (OPN) for pT1 renal tumors.

Materials and methods

In this retrospective single-centre study, 340 consecutive patients underwent LPN and OPN for localised incidentally discovered renal masses of <7 cm (cT1). All patients were matched for age, sex, body mass index, tumor side (right or left kidney) and tumor characteristics (R.E.N.A.L. nephrometry score). Demographic data, peri- and postoperative variables, including operative duration, estimated blood loss, complications, hospital stay, renal function, histological tumor staging and grading, and metastasis rates were collected and analyzed.

Results

The mean operative duration for LPN and OPN was 145.3 ± 45.4 min and 155.2 ± 35.6 min, respectively ($P=0.07$). The mean WIT was 11.7 ± 2.2 min in the LPN and 14.4 ± 1.9 min in the OPN group ($P=0.03$). The mean R.E.N.A.L. nephrometry score for LPN and OPN was 5.9 ± 1.6 and 6.1 ± 0.3 ($p=0.11$), respectively. During follow-up, the biochemical markers of glomerular filtration were completely