

Title:

Complications in Laparoscopic Transperitoneal Partial Nephrectomy

Introduction and Objectives:

We review the complications of laparoscopic partial nephrectomy in a single surgeon series.

Materials and Methods:

Between July 1999 and April 2006, a total of 125 patients underwent laparoscopic transperitoneal partial nephrectomy. Mean patient age was 58 years (range 33 to 87) and male to female ratio was 2:1. In 43 patients (34%) the procedure was hand-assisted. A database was kept prospectively for all patients.

Results:

Mean operative time was 104 minutes (range 35 to 180) and average surgical bleeding was 258 ml (range 0 to 2000). For procedures with warm ischemia, mean arterial clamping time was 26 minutes (range 15 to 60). Mean tumor size was 2.7 cm (range 1 to 7). A total of 14 patients (11.2%) had one or more complications which were intraoperative 6 (4.8%) and postoperative 8 (6.4%) with two delayed complications. Intraoperative hemorrhage occurred in 6 cases (4%), and postoperatively in another 6 (4%). Intraoperative hemorrhage was managed in 2 cases with laparoscopic radical nephrectomy and in 4 cases with intracorporeal suture. Postoperative hemorrhage required reoperation in 4 patients: two open radical nephrectomies, one laparoscopic radical nephrectomy and one laparoscopic re-suture of the kidney. The remaining two patients were managed with endovascular (percutaneous) embolization. Urine leakage occurred in one case (0.8%) and was managed conservatively with a double-J stent. A digestive hemorrhage and a pulmonary embolism were presented by two patients (1.6%). Transfusion rate was 10.4%. No case required conversion to open surgery. Mean hospital stay was 3.6 days (range 1 to 12).

Conclusion:

Laparoscopic transperitoneal partial nephrectomy is technically demanding with a high potential for complications. The most frequent complication is either intra- or post-operative hemorrhage. For delayed bleeding, endovascular techniques are safe and effective and thus our first choice in the stable patient.