



COMPARISON OF RADICAL LAPAROSCOPIC NEPHRECTOMY WITH OPEN NEPHRECTOMY IN PATIENTS WITH RENAL CANCER

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ANNOTATION

The advantages and disadvantages of open (OR) and laparoscopic partial nephrectomy (LR) are described in detail in the literature. We undertook a study to compare all two methods according to the main indicators characterizing the surgical intervention and the patient's stay in the hospital. 87 open and 34 laparoscopic partial kidney resections were performed. Patients with kidney cancer stage T1–2N0M0. The main indicators were assessed, including warm ischemia time (WTI), creatinine level, operation time, volume of blood loss, postoperative bed-day. The average duration of OR was lower than LR and RR (102.8, 162.7 and 143.3 min, respectively). The greatest VTI was in LR (16.6 min), and there was no significant difference between No RR and RR were obtained (14.5 and 12.9 min, respectively). Average volume of blood loss during RR and LR were significantly greater than with RR (332, 343 and 128 ml, respectively). The increase in creatinine was 28.6, 14.4 and 20.4% for OR, LR and RR, respectively. The longest postoperative bed-day was with OR, and the smallest with RR (13.0 and 9.0 days, respectively). For the first time, the results of a single comparison of three methods of kidney resection were obtained.

KEYWORDS: partial nephrectomy, laparoscopic partial nephrectomy, open partial nephrectomy, prostate gland

RELEVANCE

Kidney cancer ranks 10th in terms of incidence among malignant neoplasms, and in terms of increase in incidence among the genitourinary system it is second only to prostate cancer. In the last decade, much attention has been paid to minimally invasive surgical interventions. Currently, among malignant neoplasms of the genitourinary system, kidney cancer ranks third in the world in terms of morbidity and first in mortality [1]. In Russia, over the past decades, the incidence of kidney cancer has increased by more than 40% [2]. Until recently, radical nephrectomy was considered the “gold standard” for treating this disease. The emergence of modern diagnostic methods suitable for mass screening of the population has led to the detection of kidney cancer at earlier, asymptomatic stages. Up to 70% of kidney tumors these days are detected incidentally [3]. This became the impetus for the development of organ-preserving method - kidney resection. The first successful kidney resection in history was performed more than 120 years ago, but the method was not widely used. Resection was regarded as a palliative operation for cancer of the only functioning kidney [4]. Currently, partial nephrectomy is an effective and safe treatment for localized kidney cancer [5]. About 20% of patients with kidney tumors undergo organ-preserving surgery, the frequency of which is steadily increasing. In the United States in 2010, the percentage of kidney resections was 32%, of which 15% were open and 17% were laparoscopic [6]. When comparing the clinical and oncological results of radical nephrectomy and partial nephrectomy for tumors up to 4 cm in size, the latter shows better preservation of renal function in the postoperative period

[7]. Also, the issue of performing kidney resection for tumors larger than 4 cm and even larger than 7 cm is currently being actively discussed [8, 9]. Kidney resection can be performed using open, laparoscopic methods. To date, there are very few results comparing all two methods, which prompted us to carry out this study. We present our results for patients with localized kidney cancer who underwent open, laparoscopic partial nephrectomy between 2017 and 2023.

The widespread introduction of these operations is due to a number of advantages over “traditional” surgical interventions - reduction in trauma, reduction in the frequency and severity of postoperative complications, as well as a decrease in the length of patient stay in the hospital. However, there are currently not enough randomized controlled trials comparing laparoscopic and open radical nephrectomy techniques.

The purpose of our study is a comparative analysis of radical nephrectomy using traditional and laparoscopic methods in the treatment of kidney cancer.

MATERIALS AND METHODS

A retrospective analysis of 60 case histories of patients with kidney cancer who underwent open radical nephrectomy at the Andijan Regional Oncology Center during 2017 was conducted. The results obtained were compared with the data of foreign studies when performing radical laparoscopic nephrectomy (RLN).



RESULTS

Among the analyzed medical records, there were 34 (57%) women and 26 (43%) men. 38 (63%) patients had cancer of the left kidney, and 22 (37%) had cancer of the right. There were 20 patients (33%) with clinical stage I, with stage II. – 24 (40%), from the 3rd century. – 12 (20%) and from the 4th century. – 4 (7%). The obtained data were compared with data from leading foreign oncology centers.

The average duration of the operation using this open approach was 90 minutes, and laparoscopic - 120 minutes. The average duration of hospital treatment after “open” surgery was 8.5 days, after RLN – 7.6 days. The average need for drainage of the abdominal cavity after open nephrectomy was 3.2 days, for RLN – 1.5 days. Activation of the patient after open nephrectomy was possible on 2-3 days, after RLN - on 1 day. After open nephrectomy, narcotic analgesics were prescribed for an average of 1.5 days, after RLN - 1 day. To perform an open nephrectomy, an incision is made. length 15 ± 5 cm, for RLN – 7 ± 1 cm. When performing open nephrectomy intraoperative blood loss averaged 300 ml, and with RLN - 210 ml.

CONCLUSIONS

The use of laparoscopic access allows for faster recovery in the postoperative period, reducing the need for postoperative pain relief and hospital treatment. Long-term results of treatment of patients after RLN have not yet been obtained. Short-term oncologic data suggest equivalence between open and laparoscopic nephrectomy. We believe that long-term results do not depend on the type of access, but depend on the stage and extent of the process.

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