



## African Journal of Urology

Official journal of the Pan African Urological Surgeon's Association  
web page of the journal

[www.ees.elsevier.com/afju](http://www.ees.elsevier.com/afju)  
[www.sciencedirect.com](http://www.sciencedirect.com)



**Uro-Oncology**  
*Original article*

# Complications and renal functional deterioration in patients with co-morbidities following laparoscopic partial nephrectomy



E. Sharma<sup>a,\*</sup>, P.R. Chally<sup>b</sup>, S. Santhosh<sup>b</sup>, J.M. Ratkal<sup>c</sup>

<sup>a</sup> Department of Urology, Government Medical College, Jammu, India

<sup>b</sup> Baby Memorial Hospital, Kozhikode, Kerala, India

<sup>c</sup> Department of Urology, KIMS, Hubli, Karnataka, India

Received 20 August 2015; received in revised form 2 December 2015; accepted 28 December 2015

Available online 26 July 2016

### KEYWORDS

Partial nephrectomy;  
Co-morbidities;  
Complications

### Abstract

**Objectives:** To study the incidence of complications and the association between preoperative co morbidities and follow up renal function following laparoscopic partial nephrectomy.

**Subjects and methods:** After due approval from a local ethical committee, retrospective analysis of the records of 68 consecutive laparoscopic partial nephrectomies was performed for renal malignancy during the decade (2005–2015). The data acquisition was done with regard to the demographic data, Charlson co-morbidity score, and perioperative complications using modified Clavian-Dindo scale, margin positivity status, disease free survival and postoperative eGFR using CKD-EPI equation.

**Results:** The cohort consisted of 63 males and 5 females with a mean age of 51 years (3rd to 8th decade). The tumor size varied from 1 to 7 cm with a mean of 3.8 cm. The follow up was available for a period ranging from 3 months to 180 months with a mean of 40.7 months. There were a total of 14 complications in 12 patients. The overall complication rate in our series was 20.58%, majority 10 (14.70%) being minor complications (grades 1 & 2); there were 3 (4.41%) grade 3a complication and one (1.47%) grade 3b complication.

The co-morbidities were assessed with Charlson Co-morbidity score (CCS) and the relation between CCS and follow up eGFR values was also assessed. There was a statistically significant association between the CCS and follow up eGFR, the deterioration being highest in those eight patients with CCS of 6 & 7; the lowest being in those with low CCS.

\* Corresponding author.

E-mail address: [eliassharma@hotmail.com](mailto:eliassharma@hotmail.com) (E. Sharma).

Peer review under responsibility of Pan African Urological Surgeons' Association.

<http://dx.doi.org/10.1016/j.afju.2015.12.002>

1110-5704/© 2016 Pan African Urological Surgeons' Association. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

**Conclusion:** Laparoscopic partial nephrectomy for renal malignancy is safe surgery with low complication rate and there is a definite association between the preoperative co-morbidities and renal functional deterioration postoperatively.

© 2016 Pan African Urological Surgeons' Association. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Introduction

Partial nephrectomy is now preferred over radical nephrectomy as treatment of choice for patients with renal cell carcinoma where tumor is amenable to safe surgical resection as the long term results have proved that oncological survival is as good as radical nephrectomy [1–3]. The advantages of partial nephrectomy over radical nephrectomy are renal parenchymal preservation and prevention of long term renal functional deterioration [4,5]. However, it is not immune from complications as it involves parenchymal resection after renal pedicle clamping, and also involves reconstruction. Post partial nephrectomy complications could be bleeding, renal pedicle injury, urine leak, hematoma, positive surgical margins, recurrence, a v fistula formation and renal dysfunction or renal loss.

We look at the operative complications following partial nephrectomies in 68 patients performed during a decade from 2005 to 2015. We also attempt to analyze the association between co morbidities and long term renal functional deterioration.

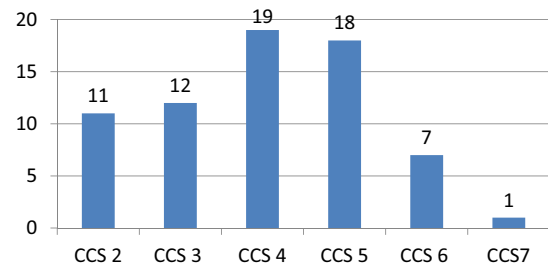
## Subjects and methods

After due approval from a local ethical committee, the hospital records of 68 consecutive patients who underwent laparoscopic partial nephrectomy for renal malignancy performed between January 2005 to March 2015 were retrospectively studied with an aim to evaluate the complications arising out of surgery and long term renal functional deterioration in them during the follow up. The follow up ranged between 3 to 180 months (mean 40.7 months). The patients were followed up every 3 months with history, clinical examination, renal function tests and imaging like chest X ray, CT/MRI abdomen, Ultrasonography of abdomen. The estimated GFR (eGFR) of the patients was calculated using CKD-EPI equation [6]. Software SPSS version 20 was used to analyze the data.

## Results

Out of a total of 68 patients, 63 (92.64%) patients were male and 5 females (7.35%) with a male to female ratio of 12.6:1. Mean age of the patients was 51 years (3rd to 8th decade).

In majority of the patients 53 (77.94%) the tumors were incidentally detected on US or CT scan done for some other medical condition and 15 (22.05%) patients presented with symptoms consisting of flank pain and hematuria. A total of 39 patients (57.35%) had right sided tumors and 29 (42.64%) left sided with 2 patients presenting with bilateral synchronous tumors (2.94%). None of the patients had solitary kidney. The mean size of the tumor was 3.8 cm (1–7 cm). Mean operative time was 165 min (127–216 min). Average warm ischemia time was 18 min (15–30 min). Mean hospital stay was 6 days (range 4–13 days).



**Chart 1** Charlson co-morbidity scores.

The co-morbidity was assessed using Charlson co-morbidity score (CCS) [7] with scores varying from 2 to 7. Eleven patients had CCS of 2, twelve patients had CCS of 3, nineteen patients had CCS of 4, eighteen patients had CCS of 5, seven patients had CCS of 6 and one patient had CCS of 7 (Chart 1)

Partial nephrectomy was done laparoscopically, hilar clamping was done with laparoscopic satinsky clamp before excision of tumor. Pelvicalyceal system was repaired when required. The renal parenchyma was approximated in two layers with surgicel bolsters.

The complications were classified in to two groups namely, immediate postoperative (within one week after surgery) and delayed postoperative depending on the timing of the complications after surgery (one week to 30 days after surgery). In the immediate postoperative period we had bleeding in 3 patients, urine leak in one patient, lower respiratory infection in one patient, fever of more than one day duration was recorded in 4 patients, prolonged ileus was seen in 2 patients, one patient had port site bleeding for which re exploration was done (Table 1).

Amongst the delayed post operative complications, hematuria with pseudo aneurism formation and parietal wall abscess was seen in one patient each (Table 2). Overall there were 12 early postoperative and 2 delayed post operative complications. Total number of complications was 14. Fifty six patients had normal postoperative course. The complications were graded according to Clavien-Dindo classification of surgical complications [8]. Majority had grade 1 (7), grade 2 complications was seen in 3, grade 3A complications were seen in 3 and one patient had grade 3B complication (Table 3).

On T staging out of a total of 68 tumors resected, 37 were T1a, 28 were T2b and three were T3a. On histo pathological examination 59 tumors were of clear cell type, 5 were papillary, 3 were chromophobe where one tumor was an oncocyoma (Table 4). Twenty six patients had capsule positivity and three patients had sinus positivity. Surgical margin positivity was seen in six patients. The first patient had tumor of 3 cm sized (T1a) tumor at the lower pole of clear cell histology. He underwent re resection of the kidney. The

Download English Version:

<https://daneshyari.com/en/article/4267491>

Download Persian Version:

<https://daneshyari.com/article/4267491>

[Daneshyari.com](https://daneshyari.com)