

Complication of Laparoscopic Nephrectomy -An Initial Experience in IGMC, Shimla

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Citation this Article: Dr. Bhartendu Nagesh, Dr. D.K Verma, Dr. R S Jhobta, Dr. Sanjiv Sharma, Dr. Mehar Chand, “Complication of Laparoscopic Nephrectomy -An Initial Experience in IGMC, Shimla”, IJMSIR- March - 2021, Vol – 6, Issue - 2, P. No. 90 – 92.

Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Background: Laparoscopic nephrectomy has been established as the standard of care for the management of benign non-functioning kidneys and has gained worldwide popularity over the past decade.

Methods: This study was conducted in the Department of General surgery, Indira Gandhi medical college, Shimla on 20 selected patients of benign non functional kidney admitted for elective Laparoscopic Nephrectomy between July 2018 to June 2019

Results: There were only two major intraoperative complications and rest of the cases had no major complication In one patient there was an iatrogenic injury to IVC and in other patients, there was a serosal tear in ascending colon for which primary repair was done. There were two major postoperative complications.

Conclusion: 2 patients had intra-operative complications both were converted to open. One kidney was pyonephrotic & intra-operatively there was a serosal tear to ascending colon which was repaired.

Another kidney was xanthogranulomatous and there was an injury to I.V.C which was repaired with prolene suture and the postoperative period was uneventful in both patients.

Keywords: Laparoscopy, Nephrectomy, Complication

Introduction

The introduction of laparoscopy into the urological practice has occurred only recently. Initially laparoscopy was used for the diagnostic purpose only specifically to localize the impalpable undescended or cryptorchid testicles.

In 1985 Eshghi and associates reported the use of laparoscopy to guide placement of percutaneous nephrostomy tract in a patient with pelvic kidney¹. In 1989 Schuessler and colleague described successful pelvic lymphadenectomy for staging purpose in a patient of carcinoma prostate². Soon other urological procedures were accomplished laparoscopically like varicocelectomy, intra-abdominal pelvic drainage of lymphocele and ureterolysis³

Material and method

Study period: This study was conducted in the Department of General surgery, Indira Gandhi medical college, Shimla on 20 selected patients of benign non functional kidney admitted for elective Laparoscopic Nephrectomy between July 2018 to June 2019

Study design: observational

Method of Collection of Data

Patients diagnosed with non functioning kidney were assessed clinically, hematologically & radiologically and were taken up for laparoscopic nephrectomy. Various parameters were studied intra operatively and findings were reported as per performa attached.

The following patients were included in the study

Patient of all age groups and of both sex with non functioning kidney due to

- Stone disease
- PUJ narrowing
- Renal tuberculosis
- Chronic pyelonephritis

The Patients with following conditions were excluded

- A prior abdominal surgery with the formation of intra-abdominal adhesions
- Morbid obesity
- Uncorrected coagulopathy
- Untreated infection and hypovolemic shock
- Severe cardiac or pulmonary disease
- With Pregnancy
- With Malignancy
- With Uncontrolled diabetes and uncontrolled hypertension

Results

There were only two major intraoperative complications and rest of the cases had no major complication In one patient there was an iatrogenic

injury to IVC and in other patients, there was a serosal tear in ascending colon for which primary repair was done.

There were two major postoperative complications. In one patient there was pulmonary thromboembolism and in another patient, there was reactionary hemorrhage from a lumbar vessel for which the patient was re-explored.

One patient developed stitch line infection which was superficial and one patient having pyonephrotic kidney developed wound sepsis. Two patients developed mild grade fever which subsided an oral antipyretic medication. One patient had a cough and two patients had ileus.

Table 1: Major intraoperative complications

Intra-operative complication	No of patient	10 %
Major vessel injury	1	
Small Bowel injury	1	

Table 2: Post-operative complications

	Postoperative complications	No of patients	Percentage distribution
Minor	Fever	1	20 %
	Cough	1	
	Ileus	2	
Major	Reactionary hemorrhage required exploration	1	10 %
	Pulmonary thromboembolism	1	

Discussion

The intra-operative complication rate was 10% and major postoperative complication was 10 % and minor complication was 20 % in the present study.

2 patients had intra-operative complications. In both patients, surgery was converted to open. In one patient there was a serosal injury to the ascending colon due to dense adhesions as kidney was pyonephrotic and repair of serosal tear was done. In another patient, there was a dense adhesion due to XGPN. During dissection, there was an injury to IVC which was repaired with prolene

suture. The postoperative period was uneventful in both the patients.

Shah KJ, et al.⁴ in a study concluded that XGPN may be associated with dense perinephric adhesions with a concomitantly increased complication & conversion rate.

In the postoperative period, 2 patients had major postoperative complications. Ist patient who had BMI of 35, had sudden shortness of breath on 4 postoperative day and was investigated and diagnosed as PTE. He was thrombolysed with alteplase, patient improved and discharged on 28th POD . One patient in which surgery was converted to open due to dense adhesions had a reactionary hemorrhage, patient was reexplored bleeding was from lumbar vessel, which was ligated and rest postoperative period was uneventful.

Prolonged ileus was seen in 2 patients who were converted to open, one patient had cough due to upper respiratory infection which was managed with oral medication. One patient developed stitch line infection which was superficial and 1 patient having pyonephrotic kidney developed wound sepsis which was managed with daily dressing and secondary suturing done. 2 patients developed mild grade fever which subsided an oral antipyretic medication.

There is a wide range of complication rates in literature Gill et al⁵ .1995 observed an overall complication rate of 16%, Eraky et al⁶. (1995) observed 30.2 %, Raswellier, et al⁷ observed overall 6 % of major complications. Fonora et, al⁸ observed 20.6 %.

Conclusion

2 patients had intra-operative complications both were converted to open. One kidney was pyonephrotic & intra-operatively there was a serosal tear to ascending colon which was repaired. Another kidney was

xanthogranulomatous and there was an injury to I.V.C which was repaired with prolene suture and the postoperative period was uneventful in both patients.

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