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TO EVALUATE EFFICACY OF LAPAROSCOPIC TRANSPERITONEAL PYELOLITHOTOMY FOR MANAGEMENT OF RENAL PELVIC STONES IN TERM OF BLOOD LOSS

Dr. Bharat Thakur[1], Dr. Ankit Panwar[2], Dr. Shivek Mohan[3], Dr. Ved Kumar Sharma[4]

[1]MO Specialist Surgery, Department of General Surgery, Shri Lal Bahadur Shastri Government Medical College Nerchowk Mandi Himachal Pradesh

[2]MO Specialist Surgery, Department of General Surgery, Civil Hospital, Rajgarh, HP

[3]MO Specialist Surgery, Department of General Surgery, Civil Hospital, Dharampur, Mandi, HP

[4]Associate Professor, Department of General Surgery, IGMC, Shimla, HP

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Corresponding author: Dr. Ankit Panwar
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Abstract

Background: To evaluate efficacy of laparoscopic transperitoneal pyelolithotomy for management of renal pelvic stones in term of blood loss

Methods: This study has been conducted in the Department of General surgery, Indira Gandhi Medical College, Shimla on selected patients of Renal pelvis stones admitted in institution

Results: Mean blood loss in successful laparoscopic surgery was 58.33 ml and in lap converted to open was 200 ml.

Conclusion: Laparoscopic pyelolithotomy is a feasible and safe operation for patients with renal stones in centers with adequate experience in laparoscopy and well trained surgeons. It is found to be safe, effective and efficient with proper patient selection and adherence to standard laparoscopic surgical principles.

Keywords: Laparoscopic Transperitoneal Pyelolithotomy, Pelvic stone, Blood loss

Introduction

Percutaneous nephrolithotomy (PCNL) is accepted as the gold standard surgery for most patients suffering from large or complex renal calculi. Despite its advantage in percutaneous approach with high stone free rate (SFR), some concerns still remain about its complications such as immediate or late hemorrhage (due to arteriovenous fistula or pseudo aneurysm), parenchymal loss and injury to the adjacent organs. The ideal procedure for large or complex renal stones would be the one that achieve complete stone free status with minimal morbidity and with the least number of procedures. The traditional standard procedure was open nephrolithotomy, which evolved into PCNL or retrograde intrarenal surgery.[1-2]

With the evolution of laparoscopy, a new era in the field of stone removal surgery is developing. Theoretically laparoscopic pyelolithotomy is assumed to preserve functional renal parenchyma, and there is a minimal risk for immediate or late complications. Therefore, it might be an alternative for the patients in whom maximal preservation of renal parenchyma is necessary

Materials and Methods

Source of Data

This study has been conducted in the Department of General surgery, Indira Gandhi Medical College, Shimla on selected patients of Renal pelvis stones admitted in institution. Preoperatively all patients has been evaluated in terms of history, clinical, laboratory and radiological findings.

Methods of Collection Of Data

Patients with large renal pelvic stones were assessed clinically, hematologicaly and radiologically and were taken for Laparoscopic Transperitoneal Pyelolithotomy. The various parameters were studied intraoperatively and post operatively as per the proforma attached.

Inclusion Criteria

The following patients with renal pelvic stones were included in the study:

- Patients of all age groups and both sex were included in the study
- Stone disease with stones in the renal pelvis with urine culture negative
- Patients already with DJ Stent in situ were also included

Exclusion Criteria

The patients with the following conditions were excluded from the study

- With underlying bleeding disorders

- With chronic cardiac and renal diseases
- With concomitant malignant diseases and COPD
- With uncontrolled Diabetes and Hypertension
- With Morbid Obesity
- With pregnancy and sepsis
- With history of previous pyonephrosis / renal abscess
- With h/o previous percutaneous renal intervention or open surgery
- With h/o previous abdominal surgery

Observations

The Age of the patient in the present study ranged from 25 years to 60 years. There were 4 (50%) females and 4 (50%) male patients.

Table 1: General characteristics

Age	No of patients	Percentage
< 25 Yrs	1	12.5%
25-50 Yrs	5	62.5%
>51 Yrs	2	25%
Male	4	50.00%
Female	4	50.00%

The duration of postoperative hospital stay in present study ranged from 5-9 days. Majority (62.5%) of the patient were discharged within 6-8 days of surgery and 2 patients which were completed by open surgery were discharged on 9th day.

Blood loss was estimated by the anaesthetist based on the number of gauze pieces soaked & the amount of blood in the suction.

Less than 100 ml of blood was lost in 5(62.5%) of the patient. 100 to 200 ml was lost in 2(25%) and in 1(12.5%) patient more than 200 ml blood was lost.

The mean blood loss in successful laparoscopic surgery was 58.33 ml and in lap completed by open was 200 ml.

Table 2: Blood loss

Estimated blood loss	No. of patients	Percentage distribution %
<100	5	62.5
100-200	2	25
200-300	1	12.5

Discussion

In the present study blood loss was in the range of 50 to 250 ml and the mean blood loss in successful laparoscopic surgery was 58.33 ml and in lap converted to open was 200 ml. Patients converted to open resulted in higher blood loss. No postoperative blood transfusion was needed.

In a study by Kramer et. al. [3] and Mujeeburahiman M. and Vipin C., [4]mean blood loss was <50 ml in successful Laparoscopic surgery. A. Al Hunayan et. al. observed mean blood loss of 57.2 ml[5]. Meria P. et. al. observed mean intraoperative blood loss of 15ml (10–150) [6] . The amount of blood loss during surgery is comparable with the observations found in the literature.

Conclusion

Laparoscopic pyelolithotomy is a feasible and safe operation for patients with renal stones in centers with adequate experience in laparoscopy and well trained surgeons. It is found to be safe, effective and efficient with proper patient selection and adherence to standard laparoscopic surgical principles.

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