MANAGEMENT OF SYMPTOMATIC RENAL CYSTS BY LAPAROSCOPY: OUR INITIAL EXPERIENCE

MOHAMMAD MAHFUZUR RAHMAN CHOWDHURY1, AKM SHAHADAT HOSSAIN2, RIFAT ZAMAN3, PRODYUT KUMAR SAHA4, HAFIZ-AL-ASAD5, LUTFUL HASAN6

Abstract

Introduction and objective: Over the last decade laparoscopic surgery has been popularized and developed to such an extent that it can be considered gold standard for many types of procedures in urology. Currently the majority of operations in urologic field can be performed by laparoscopy. This is because it is as effective as open surgery, but associated with less postoperative pain, shorter hospital stay, faster recovery and has better cosmetic result. The aim of the study is to evaluate the results of our experience of treating symptomatic renal cysts by laparoscopy.

Materials and methods: This prospective study was conducted from January 2015 to December 2017 in the Department of Urology in a single unit of Dhaka Medical College Hospital. All the patients were admitted through out-patient department. Among them those who fulfilled the criteria were selected for laparoscopic surgery. All patients were diagnosed by ultrasonography and computed tomography to determine the Bosniak classification of the cyst & informed written consent was taken. Total five laparoscopic decortication of renal cysts were performed and the results of our experience were compared with data from published article. Pain and cyst recurrence were assessed during the follow-up.

Results: Our study described the results of 05 laparoscopic decortication of renal cysts. All procedures were completed successfully by transperitoneal approach, with no major intraoperative and postoperative complications. There was a placement of drain tube in one patient. The mean (range) operative duration was 68 (40–110) min, affected by the site and number of cysts decorticated. The mean post operative hospital stay was 1.8 (1-3) days. All patients were symptom-free and no sign of recurrence during the follow-up.

Conclusion: Laparoscopic decortication of symptomatic renal cysts should be the standard of care and it is feasible with conventional laparoscopic instruments and gives a better cosmetic outcome.

Key words: Renal cysts, laparoscopy, decortication

Bangladesh J. Urol. 2018; 21(2): 137-139

Introduction

Renal cysts are common and can represent a manifestation of an inherited or acquired disorder. Simple cysts are rare in childhood, but increase in frequency during adulthood 1. The increasing incorporation of imaging into urological practice has produced a corresponding increase in the detection of renal cysts 2.

The indications for surgical intervention for renal cysts are pain, infection, hypertension, haemorrhage, collecting-system obstruction, or the risk of malignancy. The treatment options for symptomatic cysts include aspiration with or without instillation of sclerosing

1. Assistant Professor, Department of Urology, Dhaka Medical College, Dhaka.
2. Professor, Department of Urology, Dhaka Medical College, Dhaka.
3. Junior Consultant, Department of Pediatrics, Dhaka Medical College hospital, Dhaka.
4. Associate Professor, Department of Urology, Dhaka Medical College, Dhaka.
5. Assistant Professor, Department of Urology, Dhaka Medical College, Dhaka.
6. Assistant Registrar, Department of Urology, Dhaka Medical College Hospital, Dhaka.

Address of correspondence: Mohammad Mahfuzur Rahman Chowdhury, Assistant Professor, Department of Urology, Dhaka Medical College, Dhaka, Contact: +8801711372737, e-mail: mahfuz.urology@gmail.com

Received: 9 August 2017  Accepted: 05 March 2018
agents, percutaneous resection, and open or laparoscopic decortication. Laparoscopic management has become the standard of care because it is minimally invasive and has a high success rate in terms of cyst recurrence. This is because it is as effective as open surgery, but associated with less postoperative pain, shorter hospital stay, faster recovery and has better cosmetic result. The aim of the study is to evaluate the results of our experience of treating symptomatic renal cysts by laparoscopy.

Patients and methods
This prospective study was conducted from January 2015 to December 2017 in the Department of Urology in a single unit of Dhaka Medical College Hospital. All the patients were admitted through outpatient department. Among them those who fulfilled the criteria were selected for laparoscopic surgery. The main presenting symptoms were renal pain in all patients. All patients were diagnosed by ultrasonography and computed tomography to determine the Bosniak classification of the cyst & informed written consent was taken. Small asymptomatic simple cysts (<5 cm) and renal cysts of higher grade (type II, III and IV Bosniak classification) were excluded. Urine analysis with culture and sensitivity was assessed in all patients, and urine cytology was assessed in those with haematuria. Total five laparoscopic transperitoneal decortication of renal cysts were performed and the results of our experience were compared with data from published article. Pain and cyst recurrence were assessed during the follow-up (3 months, 6 months and yearly).

Results
Our study described the results of 05 laparoscopic decortication of renal cysts. The mean age of the patients was 42.6 years (35-48 years). Out of them, male patients were three and female patients were two. Average cyst size was 9.7 cm (8.5cm to 11cm). All procedures were completed successfully by transperitoneal approach, with no major intraoperative and postoperative complications and no blood transfusions needed. There was a placement of drain tube in one patient. The tube drain was removed 2 days after surgery. The mean (range) operative duration as 68 (40–110) min, affected by the site and number of cysts decorticated. The mean post operative hospital stay was 1.8 (1-3) days. No malignancy was detected on histopathological examination of the cyst walls. The patients were followed up for 3, 6 and 12 months, with a clinical assessment for pain, and by abdominal ultrasonography. All patients were symptom-free, with no urinary tract obstruction. There was recurrence found in one patient in 6 months follow up. The recurrent cyst was small, at H"4 cm, and painless. Rest of the patients were symptom-free and no sign of recurrence during the follow-up.

Table-I

| Total cases | 05 |
|-------------|----|
| Male        | 03 |
| Female      | 02 |
| Age (years) \[Age (years)\] | \[Mean 42.6 \[Range 35-48 \[Laterality \[Laterality\] | \[Right 02 \[Left 03 \[Size of renal cysts(cm) \[Size of renal cysts(cm)\] | \[Mean 9.7 \[Range 8.5-11 \[Operation time(minutes) \[Operation time(minutes)\] | \[Mean 68 \[Range 40-110 \[Hospital stay(days) \[Hospital stay(days)\] | \[Mean 1.8 \[Range 1-3 \|

Discussion
Laparoscopic cyst decortication is an effective and durable treatment for symptomatic renal cysts, as assessed over a long-term follow-up. Its minimal invasiveness and greater success rate favour it over other treatments. The outcome of laparoscopy shows that it can be used safely and effectively in many urological procedures, including cyst decortication, which can be done bilaterally in the same session. Usually renal cyst were found in adult people. Our study reflects the same average age with the published literature and it 42.6 years. Some authors recommended that retrograde pyelography should be used just before the start of the laparoscopic procedure.
especially in those with parapelvic and parenchymal cysts, to assess cyst communication with the collecting system, and possibly an injection with methylene blue via a ureteric catheter for a final check at the end of the manoeuvre. However, we think that this is not mandatory and we did not use this in our series where there were no significant complications. The retroperitoneal approach reduces the risk of hypercarbia, hypothermia, postoperative ileus, inadvertent intra-abdominal organ injury and hernia formation, compared to the transperitoneal approach. But we preferred transperitoneal approach for better visualization. The mean (range) operative duration as 68 (40–110) min, affected by the site and number of cysts decorticated which was also comparable to others authors. After laparoscopic decortication of renal cysts, post operative hospital stay was 1.8 (1-3) days which reduces the cost of the patients. Cysts can recur, possibly due to incomplete handling or incomplete excision of the cyst wall. To decrease the possibility of recurrence, the renal cyst wall should be completely excised if possible. If it is not possible to excise the cyst wall completely, the perinephric fat should be tacked into the cavity. We report one case of recurrence.

Conclusion

Laparoscopy in treating urological diseases is viable option and offers several advantages over open technique. Laparoscopic decortication of symptomatic renal cysts should be the standard of care and it is feasible with conventional laparoscopic instruments and gives a better cosmetic outcome.

References

1. Hanash K.A., Al-Othman K., Mokhtar A., Al-Ghamdi A., Aslam M. Laparoscopic ablation of giant renal cyst. J Endourol. 2003;17:781–784.
2. McHugh K., Stringer D.A., Hebert D., Babiak C.A. Simple renal cysts in children. Diagnosis and follow up with ultrasound. Radiology. 1991; 178:383–385.
3. Rane A. Laparoscopic management of symptomatic simple renal cysts. Int Urol Nephrol. 2004;36:5–9.
4. Hulbert J.C. Laparoscopic management of renal cystic disease. Semin Urol. 1992;10:239–241.
5. Gadelmoula M, Kurkar A, Shalaby MM. Laparoscopic management of symptomatic renal cysts: A single center experience. Arab J Urol. 2014 Jun;12(2):173–177.
6. Atug F., Burgess S.V., Ruiz-Deya G., Mendes-Torres F., Castle E.P., Thomas R. Long-term durability of laparoscopic decortication of symptomatic renal cysts. Urology. 2006; 68:272–275.
7. Kaouk J.H., Autorino R., Kim F.J., Han D.H., Lee S.W., Yinghao S. Laparoendoscopic single-site surgery in urology. worldwide multi-institutional analysis of 1076 cases. Eur Urol. 2011;60:998–1005.
8. Pearle M.S., Traxer O., Cadeddu J.A. Renal cystic disease: laparoscopic management. Urol Clin North Am. 2000;27:661–673.
9. Kang Y., Noble C., Gupta M. Percutaneous resection of renal cysts. J Endourol. 2001;15:735–738.
10. Roberts W.W., Bluebond-Langner R., Boyle K.E., Jarrett T.W., Kavoussi L.R. Laparoscopic ablation of symptomatic parenchymal and peripelvic renal cysts. Urology. 2001;58:156–159.
11. Ferzli G., Raboy A., Kleinerman D., Albert P. Extraperitoneal endoscopic pelvic lymph node dissection vs. laparoscopic lymph node dissection in the staging of prostatic and bladder carcinoma. J Laparoendosc Surg. 1992;2:219–222.
12. Porpiglia F., Fiori C., Billia M., Renard J., Di Stasio A., Vaccino D. Retroperitoneal decortication of simple renal cysts vs decortication with wadding using perirenal fat tissue: results of a prospective randomized trial. BJU Int. 2009;103:1532–1536.