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Transperitoneal Laparoskopik Renal Kist Dekortikasyonu: Tek Merkez Deneyimi

Tranperitoneal Laparoscopic Renal Cyst Decortication: A Single Center Experince

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ÖZ

GİRİŞ ve AMAÇ: *Laparoskopik dekortikasyon böbrek kist tedavisinde minimal invaziv bir prosedür olması, yüksek başarı oranı nedeniyle standart yöntem haline gelmiştir. Çalışmamızın amacı kliniğimizde uygulanan laparoskopik transperitoneal kist dekortikasyon (LTKD) sonuçlarını sunmaktır.*

YÖNTEM ve GEREÇLER: *Aralık 2012 ile Haziran 2016 arasında Bosniak tip 1 renal kist nedeniyle LTKD uygulanan 48 (28 erkek, 20 kadın) hastanın dosyaları retrospektif olarak incelendi. Hasta yaşı, operasyon süresi, kist boyutu, kist tarafı, postoperatif komplikasyon oranları ve hospitalizasyon süreleri kaydedildi.*

BULGULAR: *Ortalama hasta yaşı 55.8 ± 12.2 yıldı. Renal kistlerin 25'i (%52) sağ, 23'ü (%48) sol böbrek yerleşimli ve ortalama kist boyutu 65.83 ± 30.15 mm idi. Ortalama operasyon süresi 41.4 ± 5.6 dakika olarak bulundu. İntraoperatif komplikasyon görülmedi. Postoperatif 5 (%10.4) hastada Clavien grade 1 komplikasyon saptandı. Postoperatif 1. ay kontrollerinde hiçbir hastada nüks tespit edilmedi.*

TARTIŞMA ve SONUÇ: *Böbrek kisti tedavisinde uyguladığımız LTKD sonuçlarımız literatür ile uyumludur.*

Anahtar Kelimeler: *böbrek, laparoskopi, endoüroloji.*

ABSTRACT

INTRODUCTION: *Laparoscopic decortication became a standart procedure for the treatment of renal cysts because of less invasive and has a high success rate. The aim of this study was to present our results of laparoscopic transperitoenal cyst decortication (LTCD).*

METHODS: *The data of 48 patients who underwent LTCD for Bosniak Type 1 renal cyst between December 2012 and June 2016 were retrospectively evaluated. Patient's age, operation time, cyst size, cyst laterality, postoperative complication rates and postoperative hospital stay were recorded.*

RESULTS: *The mean age of the patients were 55.8 ± 12.2 years. Renal cysts were localizated on the right side in 25 (52%) patients and on the left side in 23 (48%) patients and mean cyst size was 65.83 ± 30.15 mm. Mean operative time was 41.4 ± 5.6 min. There was no intraoperative complications. Clavien grade 1 complication was occured in 5 (10.4%) patients, postoperatively. No recurrence was occured in postoperative first month evaluation.*

DISCUSSION and CONCLUSION: *Our LTCD results are consistent with the literature.*

Keywords: *kidney, laparoscopy, endourology.*

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INTRODUCTION

Diagnosis of renal cysts (RCs) are increased with the widespread use of imaging techniques in general population during adulthood (1). The incidence of RC at 40 and 60 years of age and are 20% and 33%, respectively (2,3). Although most RCs are found incidentally and peripheral in location without any symptoms, RCs may be treated when they become large enough to cause hematuria, pelvicalyceal obstruction, hypertension or pain (4,5). The treatment options included aspiration, percutaneous resection and open or laparoscopic decortication (6). Laparoscopic management of RCs has become the standard modality of minimally invasive treatment with high success rate (7). The aim of the present study is to present our laparoscopic transperitoneal cyst decortication (LTCD) results.

METHODS

We retrospectively evaluated the results of 48 patients (28 males, 20 females) with cortical RCs who had a LTCD between December 2012 and June 2016. All cysts were Bosniak class 1 and the indication of surgical intervention was pain unresponsive to analgesics. Patient's age, cyst size, cyst laterality, operation time, postoperative complications and length of hospital stay were recorded. Recurrence was evaluated by postoperative first and 3rd month visits with ultrasound and/or computed tomography (CT).

LTCD technique: Under general anesthesia, following insertion of the ureteral catheter, patients were placed in a semi-lateral decubitus position at a 450 angle. To locate the site for entering the peritoneal cavity, we drew a horizontal line between the anterior superior iliac supine and umbilicus and divided it into thirds. We entered the abdominal cavity using a Veress needle at the point in which the two external thirds met (Figure 1). To achieve pneumoperitoneum, CO2 was delivered under insufflation pressure of 15 mmHg into abdominal cavity. The first 10 mm port was advanced through the access tract created with a Veress needle. Then, another 10 mm port was inserted into umbilicus to serve as the camera port. A 5 mm port was inserted at a site to 2 cm below the intersecting point between the midclavicular line and subcostal arch under direct vision. Following the placement of the ports, the intraperitoneal pressure was lowered by 12 mmHg. Intraperitoneal adhesions were dissected away from abdominal wall and white line of Toldt was exposed. The colon was deviated to the medially, Gerota's fascia was uncovered, and the borders of the cyst were exposed. The cyst was opened, excised, and extracted from the connection with the normal renal parenchyma using a laparoscopic harmonic scalpel. After suction and hemostatic control, intraabdominal gas was evacuated and trocar entry sites were closed. All operations were performed or supervised by a single surgeon (HIC) and peritoneal drain was optionally used.

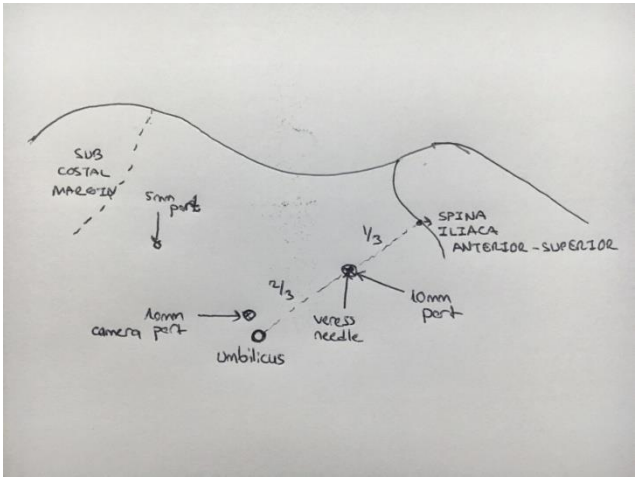

Figure 1. Veress needle insertion point and port sites.

Statistical analyses: All analyses were performed by SPSS 20.0.0 (IBM Corp., Chicago, IL). Continue variables were presented as mean ± SD if they are normally distributed. Median (IQR) was used if they are not normally distributed. Categorical variables were presented as frequencies/percentages.

RESULTS

In total, 48 patients were enrolled in this study, comprising 28 (58.3%) male and 20 (41.7%) female with a mean age of 55.8 ± 12.2 years. RCs were localized on the right side in 25 (52%) patients and on the left side in 23 (48%) patients and mean cyst size was 65.83 ± 30.15 mm. Mean operative time and mean estimated blood loss was 41.4 ± 5.6 min and 55 ± 17.2 ml, respectively. The characteristics of the patients are listed in Table 1. No intraoperative complications was recorded. Clavien grade 1 complication such as delayed bowel movement and fever were occurred in 5 (10.4%) patients. These patients were treated with

intravenous hydration and/or antipyretics. Drain was inserted in 22 (45.8%) patients while the other 26 (54.2%) patients were undrained. All drains were removed on the first postoperative day except 5 patients with prolonged drainage. Median hospitalization time was 1 day (range 1-3 days). No recurrence was detected follow up at first month. Although all patients were asymptomatic at the 3rd month follow-up, radiological recurrence was detected in 2 (4.1%) patients.

Table 1. Patients characteristics

Age (mean ± SD), years	55.8 ± 12.2
Sex (male/female) (%)	28/20 (58.3/41.7)
Cyst size (mean ± SD), mm	65.83±30.15
Laterality (%)	
Right	25 (52)
Left	23 (48)
Clavien Grade 1 complication, (%)	5 (10.4)
Operation time, min, (mean ± SD)	41.4±5.6
Discharge time, median (IQR)	1 (1-3)
Postoperative 1 day, n, (%)	41 (85.4)
Postoperative 2 day, n, (%)	3 (6.3)
Postoperative 3 day, n, (%)	4 (8.3)
Third month radiological success rate (%)	95.8

SD: standard deviation, mm: millimeter, IQR: interquartile range

DISCUSSION

A simple benign cyst (Bosniak class 1) has a round or oval shape, thin smooth wall without septa, calcification or solid components. Cyst fluid density measure similar to water and does not show enhancement with contrast material in CT scan (8). The prevalence of RCs have been increased. However, most of these RCs do not require treatment (9). Up to 5 to 10% of RCs are symptomatic. The main presentation is flank pain, occasionally patients may present with hematuria, hypertension or infection (10,11).

The ideal management of symptomatic RC should minimal invasive and recurrence free. Aspiration only, or aspiration and sclerotherapy with an agent techniques are less invasive than laparoscopic cyst decortication, though the recurrence rate is relatively high (12). Laparoscopic RC decortication has been shown to be a safe and effective therapy. Furthermore, it has been reported that laparoscopic cyst decortication is durable treatment option during for a long-term follow-up (13-15). Laparoscopic management of RCs effective and has a high success rate with an advantage of being less invasive treatment modality when compared with open surgery (16).

Studies have shown that the success rate of laparoscopic RC decortication varies between 60% and 100%, either transperitoneal or retroperitoneal approach used. For the peripherally located cysts, radiologic success rate was reported from 88.2% to 93.9% (17). In the present study all patients were symptom free and 95.8% patients were radiological recurrence free at postoperative 3rd month. The main advantages of laparoscopic surgery is lower complication rates, shorter hospitalization and rapid recovery when compared with open surgery. In the present study, no intraoperative complication was recorded. Five patients have Clavien grade 1 complication in the postoperative period.

Retroperitoneal and transperitoneal approaches are comparable regarding to postoperative pain, clinical and radiological success (18). In the present study transperitoneal approach was used; as it has larger working space and anatomical landmarks although it has disadvantages of longer operation time and need to mobilize colon (18).

Incomplete resection of the cyst wall can cause recurrence. The residual secreting cyst wall can become adherent to surrounding tissue and can cause de novo cyst formation. In this present study, 2 patients had recurrence at the 3rd month follow-up although there is no evidence of recurrence at the first month follow-up. Both of the patients were in our first 10 cases. Incomplete resection in that 2 cases can be explained by learning curve.

In conclusion, LTCD is safe and effective therapy and our results are consistent with the literature. We must keep in mind that cyst recurrence may occur at the third month even though there is no recurrence at the first month.

REFERENCES

1. McHugh K, Stringer DA, Hebert D, Babiak CA. Simple renal cysts in children. Diagnosis and follow up with ultrasound. Radiology 1991; 178:383-5.
2. Hanash KA, Al-Othman K, Mokhtar A, Al-Gamdi A, Aslam M. Laparoscopic ablation of giant renal cyst. J Endourol 2003; 17:781-784.
3. Terada N, Arai Y, Kinukawa N, Terai A. The 10-year natural history of simple renal cysts. Urology 2008;71:7-11.
4. Efesoy O, Tek M, Bozlu M, Doruk HE. Comparison of single-session aspiration and ethanol sclerotherapy with laparoscopic de-roofing in the management of symptomatic simple renal cysts. Turk J Urol 2015; 41(1): 14-9.
5. Caglioti A, Esposito C, Fuiano G, Buzio C, Postorino M, Rampino T, et al. Prevalence of symptoms in patients with simple renal cysts. BMJ 1993; 306: 430-1.
6. Gadelmoula M, Kurkar A, Shalaby MM. The laparoscopic management of symptomatic renal cysts: A single-centre experience. Arab J Urol 2014; 12(2): 173-7.
7. El-Shazly M, Allam A, Hathout B. Laparoscopic decortication of simple renal cysts with omental wadding technique: single-center experience. J Laparoendosc Adv Surg Tech A 2012; 22(9): 886-8.
8. Bosniak MA. The use of the bosniak classification system for renal cysts and cystic tumors. J Urol 1997; 157:1852-3.
9. Ozcan L, Polat EC, Onen E, Cebeci OO, Memik O, Voyvoda B, et al. Comparison between retroperitoneal and transperitoneal approaches in the laparoscopic treatment of Bosniak type 1 renal cysts: a retrospective study. Urol J 2015; 12:2218-22.
10. Hemal AK. Laparoscopic management of renal cystic disease. Urol Clin North Am 2001;28:115-26.
11. Thwaini A, Shergill IS, Arya M, Budair Z. Long-term follow-up after retroperitoneal laparoscopic decortication of symptomatic renal cysts. Urol Int 2007; 79:352-5.
12. Chung B, Kim J, Hong C, Yang S, Lee M. Comparison of single and multiple sessions of percutaneous sclerotherapy for simple renal cyst. BJU Int 2000; 85(6):626-7.
13. Pearle MS, Traxer O, Cadeddu JA. Renal cystic disease. Laparoscopic management. Urol Clin North Am 2000; 27:661-73.
14. Yang D, Xue B, Zang Y, Liu X, Zhu J, Chen D, et al. A modified laparoendoscopic single-site renal cyst decortication: single-channel retroperitoneal laparoscoic decortication of simple renal cyst. J Laparoendosc Adv Surg Tech A 2013; 23:506-10.
15. Atug F, Burgess SV, Ruiz-Deya G, Mendes-Torres F, Castle EP, Thomas R. Long-term durability of laparoscopic decortication of symptomatic renal cyst. Urology 2006; 68:272-5.
16. Morgan C, Rader D. Laparoscopic unroofing of a renal cyst. J Urol 1992;148:1835-6.
17. Bas O, Nalbant I, Sener NC, Firat H, Yeşil S, Zengin K, et al. Management of renal cysts. JSLS 2015; Jan-Mar;19(1):e2014.00097.
18. Ryu DS, Oh TH. Laparoscopic decortication of large renal cysts: A comparison between the transperitoneal and retroperitoneal approaches. J Laparoendosc Adv Surg Tech A 2009;19(5): 629-32.