

doi: 10.13241/j.cnki.pmb.2015.18.024

腹腔镜联合硬质胆道镜治疗复发性肝胆管结石的临床应用*

王 平 孙北望 谢嘉奋 刘衍民 郑南国

(广州医科大学附属第一医院肝胆外科 广东 广州 510120)

摘要 目的:观察腹腔镜联合硬质胆道镜治疗复发性肝胆管结石的临床应用。**方法:**选取 2013 年 1 月-2014 年 1 月期间在广州医科大学附属第一医院治疗的复发性肝胆管结石患者 64 例,随机分为研究组和对照组,研究组患者给予腹腔镜联合硬质胆道镜治疗,对照组患者采取开腹治疗。观察并比较两组患者的临床效果。**结果:**研究组患者手术出血量、手术时间、肛门排气时间、术后胆红素恢复时间、平均住院时间和抗生素应用时间均少于或短于对照组,差异均有统计学意义(均 $P < 0.05$);研究组患者术后发生感染、胆漏、出血、结石残余与对照组比较差异均无统计学意义(均 $P > 0.05$);研究组患者术后疼痛 3 例显著高于对照组的 15 例($P < 0.05$)。**结论:**腹腔镜联合硬质胆道镜治疗复发性肝胆管结石对患者损伤小、手术过程中出血量少、结石取出率高、残留可能性小、结石复发率低、术后恢复快、并发症发生率低,其可行性和安全性高,适应范围广,值得推广应用。

关键词:腹腔镜;硬质胆道镜;复发性;肝胆管结石

中图分类号:R657.42 **文献标识码:**A **文章编号:**1673-6273(2015)18-3499-03

Clinical Application of Laparoscopy Combined with Rigid Choledochoscopy in Treatment of Recurrent Hepatolithiasis*

WANG Ping, SUN Bei-wang, XIE Jia-fen, LIU Yan-min, ZHENG Nan-guo

(Department of Hepatobiliary Surgery, the First Affiliated Hospital of Guangzhou Medical University, Guangzhou, Guangdong, 510120, China)

ABSTRACT Objective: To observe the clinical application of laparoscopy combined with rigid choledochoscopy in treatment of recurrent hepatolithiasis. **Methods:** 64 cases of patients with recurrent hepatolithiasis during January 2013 to January 2014 in our hospital were randomly divided into the study group and the control group. Patients in the study group received laparoscopy combined with rigid choledochoscopy for treatment, while those in the control group received laparotomy. The clinical effect of the two groups were observed and compared. **Results:** The bleeding volume, operation time, anal exhaust time, bilirubin recovery time, hospitalization time and antibiotic application time of the study group was less or shorter than that of the control group, and the difference was statistically significant (all $P < 0.05$); There was no significant difference in the postoperative infection, bile leakage, bleeding, and residual stones between the two groups (all $P > 0.05$); 3 cases of patients with postoperative pain in the study group was significantly higher than 15 cases in the control group ($P < 0.05$). **Conclusions:** Laparoscopy combined with rigid choledochoscopy in treatment of recurrent hepatolithiasis has an advantage of less damage for patients, less bleeding during surgery, stone removal rate, the possibility of residual small stone recurrence rate, rapid postoperative recovery, low complication rate, feasibility and safety, as well as wide adaptability, and it is worthy of popularization and application.

Key words: Laparoscopy; Rigid choledochoscopy; Recurrent; Hepatolithiasis

Chinese Library Classification(CLC): R657.42 **Document code:** A

Article ID:1673-6273(2015)18-3499-03

前言

肝胆管结石病是我国长江以南、沿海一带、西南地区,尤其是广大农村地区的多发病,也常见于东南亚及日本,是具有强烈区域分布的疾病^[1]。在我国普通地区肝胆管结石发病率达 5% 左右,而在某些高发地区发病率是普通地区的两倍,其中肝胆管结石约占肝胆管系统疾病的五分之四^[2]。肝胆管结石由于结石在肝内长期存在,会对肝脏产生刺激作用,从而导致一些疾病的发生。如不及时有效的治疗,将会严重影响患者的生命健康和生活质量。因此,肝胆管结石的治疗成为人们普遍关注的

问题^[3]。近年来微创外科技术得到大力发展,腹腔镜和硬质胆道镜被广泛的应用于肝胆结石疾病治疗。本研究主要探讨腹腔镜联合硬质胆道镜治疗复发性肝胆管结石的临床应用。

1 资料与方法

1.1 一般资料

选取 2013 年 1 月-2014 年 1 月于我院治疗的复发性肝胆管结石患者 64 例,所有患者在手术前均经 B 超、CT、MRI 检查确诊,其中单纯胆总管结石 14 例,胆总管结石合并胆囊结石 25 例,肝内胆管结石合并胆总管结石 25 例。其中男 34 例,女

* 基金项目:广东省医学科研基金立项课题(A2013254)

作者简介:王平(1969-),男,博士研究生,副主任医师,从事肝胆外科的方面的研究,E-mail:wangping24578@163.com

(收稿日期:2014-12-23 接受日期:2015-01-18)

30 例;年龄 32-75(58.50± 6.21)岁;病程 0.5-6.5(2.97± 0.54)年。采用随机数字表法将所有患者研究组和对照组,每组患者各 32 例。两组患者的一般资料如表 1 所示,资料均衡,两组相比差异均无统计学意义(均 $P > 0.05$),具有可比性。本研究经医

院伦理学委员会批准实施进行,在进行研究过程中所收集的的所有资料仅用于科学研究,绝不泄露给患者造成任何困扰。所有患者在纳入研究之前签订知情同意书。

表 1 两组患者一般资料比较

Table 1 Comparison of the general data between two groups of patients

组别	例数	性别(男/女)	年龄(岁)	腹痛(n)	发热(n)	黄疸(n)	TBL	ALT	AST
Groups	Cases	Gender(M/F)	Age(years)	Abdominal pain(n)	Fever (n)	Jaundice (n)	($\mu\text{mol/L}$)	(U/L)	(U/L)
研究组	32	18/14	58.89± 4.86	26	16	18	40.56± 27.67	70.13± 48.18	180.21± 98.62
Study group									
对照组	32	16/16	58.10± 4.65	24	16	17	40.45± 28.13	70.23± 48.48	180.09± 97.90
Control group									

注:TBL 表示血清总胆红素;ALT 表示谷丙转氨酶;AST 表示谷草转氨酶。

Note:TBL:the serum total bilirubin; ALT:glutamic-pyruvic transaminase;AST:Aspartate Transaminase.

1.2 方法

两组所有患者均于术前禁食、禁饮,常规术前化验检查,签订手术同意书。对照组患者采用传统开腹方法进行治疗,患者采用仰卧位,气管全麻醉,消毒术野,在右肋缘下斜做约 13cm 长短的切口,进入腹腔,做常规的腹腔探查。腹腔探查完成后,将肝十二指肠韧带表面的腹膜切开,将胆囊三角进行解剖,分离出胆囊管和胆总管,用止血钳夹闭胆囊管,分离并切除胆囊。胆囊切除后将胆总管游离出约 2 cm 的长度,在胆总管前壁做 1.5 cm 左右的切口,将胆汁吸出,将胆道取石钳伸入到胆总管中取出其中的结石,之后再探查胆总管以及肝总管内是否有结石残留,若有残留将其仔细的取出,待结石清除干净后,放置 T 管引流,用可吸收的缝合线缝合胆总管切口。术后两周 T 管造影,若无异常,方可出院,一月后 T 管拔出^[46]。研究组患者取仰卧位的体位,气管全麻,消毒手术视野,采用四孔法操作,做常规的腹腔探查。腹腔探查完成后,将肝十二指肠韧带表面的腹膜切开,用腹腔镜血管钳分离并切除胆囊。在胆总管前壁做 1 cm 左右的切口,将 16F 的保护性鞘管从主操作孔内放入胆总管切口处,硬质胆道镜经鞘管进入胆道进行碎石、石取石,反复冲洗胆管,采用硬质胆道镜观察结石有无残留,待结石清除干净后,置入 T 管,采用 4-0 的可吸收的缝合线缝合胆总管。对于狭窄段胆管先用软性系列扩张器或胆道球囊扩张器扩张,

必要时用电刀切开狭窄处再扩张(电切时胆道内灌注甘露醇),留置远端超过狭窄段 14F 引流管,支撑导管留置 8~11 个月。所有操作在鞘内、胆道内进行,器械不与窦道壁接触。术后根据造影观察结石残留情况及确定拔管时间^[7,8]。

1.3 观察指标

观察并比较两组患者的术中和术后情况,主要指标有出血量、手术时间、肛门排气时间、住院时间、胆红素恢复时间、抗生素应用时间以及有无感染、胆漏、出血、疼痛以及结石残留等并发症发生情况^[9]。

1.4 统计学处理

数据均采用 SPSS13.0 统计学软件处理,计量资料用($\bar{x} \pm s$)表示,采取 t 检验;计数资料采用 χ^2 检验, $P < 0.05$ 表示差异具有统计学意义。

2 结果

2.1 两组患者术中以及术后恢复情况比较

研究组患者手术出血量、手术时间、肛门排气时间、术后胆红素恢复时间、平均住院时间和抗生素应用时间均少于或短于对照组,两组比较差异均有统计学意义(均 $P < 0.05$),具体见表 2。

表 2 两组患者术中以及术后恢复情况比较($\bar{x} \pm s$)

Table 2 Comparison of situation of intraoperative and postoperative recovery between two groups

组别	例数	出血量(ml)	手术时间(min)	肛门排气时间(h)	胆红素恢复时间(d)	住院时间(d)	抗生素应用时间(d)
Groups	Cases	Blood loss(ml)	Operation time(min)	Anal exhaust time(h)	Bilirubin recovery time(d)	Hospitalization (d)	Antibiotic plication time(d)
研究组	32	51.31± 49.98 [▲]	213.32± 32.21 [▲]	30.62± 7.28 [▲]	7.56± 1.54 [▲]	7.37± 1.40 [▲]	5.23± 1.45 [▲]
Study group							
对照组	32	171.34± 40.56	118.56± 30.14	57.65± 11.45	15.06± 3.45	15.56± 4.89	8.53± 1.72
Control group							

注:与对照组比较,▲ $P < 0.05$ 。

Note:compared with control group,▲ $P < 0.05$.

2.2 两组患者术后并发症发生情况

研究组患者术后发生感染、胆漏、出血、结石残留分别为 1

例、1 例、1 例和 2 例,对照组患者术后发生感染、胆漏、出血、结石残留分别为 2 例、2 例、2 例和 1 例,两组比较差异均无统计

学意义(均 $P > 0.05$);研究组患者术后疼痛 3 例,对照组患者术后疼痛 15 例,两组比较差异有统计学意义($P < 0.05$),具体见表 3。

表 3 两组患者术后并发症发生情况比较[n(%)]
Table 3 Comparison of the postoperative complications in two groups[n(%)]

组别 Groups	例数 Cases	感染 Infection	胆漏 Bile leakage	疼痛 Pain	出血 Bleeding	结石残余 Residual stones
研究组 Study group	32	1(3.13)	1(3.13)	3(9.38)	1(3.13)	2(6.25)
对照组 Control group	32	2(6.25)	2(6.25)	15(46.88) [▲]	2(6.25)	1(3.13)

注:与对照组比较, $^{\Delta}P < 0.05$ 。

Note:compared with control group, $^{\Delta}P < 0.05$.

3 讨论

反复发作性肝胆管结石病变范围广、病情反复、并发症发生率高,严重影响患者的生命健康和生活质量。传统的治疗肝胆管结石的方法为开腹手术,开腹手术对机体损害大,手术后切口易发生感染,并发症发生率高,恢复时间长,延长了患者的住院时间,加重了患者的经济负担^[10,12]。乳头括约肌切开取石术也常常被用于肝胆管结石的治疗,该方法可以显著的降低开腹手术对患者的损害,但对于结石位置低、直径大的结石不适用,还易导致胰腺炎、出血等并发症的发生^[13,14]。近年来,随着社会的发展和医学技术的进步,微创外科技术得到了快速发展,微创外科技术用于肝胆管结石治疗具有结石残留少、恢复快、并发症发生率低等优点。但应用微创外科治疗肝胆管结石也存在一定的风险,肝胆系统血供丰富、肝脏机构复杂,腹腔镜联合硬质胆道镜治疗难度较高,风险较大,需要技术娴熟的医师进行^[15]。腹腔镜联合硬质胆道镜治疗复发性肝胆管结石的优势主要有:可以通过硬质胆道镜清楚的了解结石的位置、数目、大小等;清晰了解胆管变异、狭窄、狭窄的长度和程度的具体情况,使手术具有明确的目的性,提高取石的成功率、减少结石复发率;对于术后结石残留可通过 T 管窦道再次取石,减少了腹腔污染的机会,降低术后并发症,减轻患者的痛苦等^[16,17]。目前腹腔镜联合硬质胆道镜被广泛应用于复发性肝胆管结石的治疗,通过该方法进行治疗时与传统的开腹手术相比其手术切口小,对患者的损伤较小,可提高术后创口愈合的速度,减少切口感染的发生;该方法由于手术视野较为清晰具体,因此可以显著提高结石取出的机会,降低结石残留的可能性,从而使结石复发等的并发症降低,提高治疗效果。

本研究选取复发性肝胆管结石患者 64 例,采用分组方法进行研究,结果发现,研究组患者在手术出血量、肛门排气时间、术后胆红素恢复时间、平均住院时间和抗生素应用时间等均显著低于对照组。提示腹腔镜联合硬质胆道镜治疗复发性肝胆管结石临床效果显著,手术切口小,属于微创手术,对患者的机体损伤小,手术过程中出血量较传统的开腹手术方式出血量明显减少。采用硬质胆道镜进行取石时常常采用气压弹道碎石、高压水泵冲洗、cook 网篮和取石钳取石等方法,对患者的肝胆管组织损伤轻,有利于恢复。而对于狭窄的胆道则可以用硬质胆道镜直接扩开狭窄、胆道球囊扩开狭窄、硬镜下电刀切开狭窄等方式进行取石,避免直接取石给患者造成的刺激。因此,腹腔镜联合硬质胆道镜治疗复发性肝胆管结石可以显著

的减少手术出血量、肛门排气时间、术后胆红素恢复时间、平均住院时间和应用抗生素时间,促进患者的恢复,减轻患者的经济负担。而研究组的手术时间显著高于对照组,则是由于腹腔镜联合硬质胆道镜取石需要医师对腹腔镜有娴熟的操作技巧,并且能够严格掌握硬质胆道镜的取石技巧,因此其相对于开腹治疗来说对医师的要求、手术过程的精细程度更高,因此延长了患者的手术时间,但对整体的手术效果并没有产生影响。研究组术后疼痛的发生率显著低于对照组,说明腹腔镜联合硬质胆道镜治疗复发性肝胆管结石并发症发生率低,患者术后舒适度高,有利于患者生活质量的提高,这与相关报告相似^[18-20]。

综上所述,腹腔镜联合硬质胆道镜治疗复发性肝胆管结石效果优越,术后并发症低,恢复快,安全可行,值得临床推广。

参考文献(References)

- [1] Liu Z, Tian F, Feng X, et al. LPS increases MUC5AC by TACE/TGF- α /EGFR pathway in human intrahepatic biliary epithelial cell[J]. Biomed Res Int, 2013, 2013: 165715
- [2] Tu JF, Jiang FZ, Zhu HL, et al. Laparoscopic vs open left hepatectomy for hepatolithiasis[J]. World J Gastroenterol, 2010, 16(22): 2818-2823
- [3] Machado MA, Surjan RC, Makdissi FF. Video: intrahepatic Glissonian approach for pure laparoscopic right hemihepatectomy [J]. Surg Endosc, 2011, 25(12): 3930-3933
- [4] Pan W, Xu E, Fang H, et al. Surgical treatment of complicated hepatolithiasis using the ultrasound-guided fiberoptic choledochoscope[J]. Surg Endosc, 2011, 25(2): 497-502
- [5] Ozcan N, Kahriman G, Mavili E. Percutaneous transhepatic removal of bile duct stones:results of 261 patients [J]. Cardiovasc Intervent Radiol, 2012, 35(4): 890-897
- [6] Hu MG, Zhao GD, Ouyang CG, et al. Lithotomy using cholangioscopy via the left hepatic duct orifice versus the common bile duct in laparoscopic treatment of left-sided hepatolithiasis: a comparative study[J]. J Laparoendosc Adv Surg Tech A, 2013, 23(4): 332-338
- [7] Tian J, Li JW, Chen J, et al. Laparoscopic hepatectomy with bile duct exploration for the treatment of hepatolithiasis:an experience of 116 cases[J]. Dig Liver Dis, 2013, 45(6): 493-498
- [8] Tian J, Li JW, Chen J, et al. The safety and feasibility of reoperation for the treatment of hepatolithiasis by laparoscopic approach[J]. Surg Endosc, 2013, 27(4): 1315-1320
- [9] Zhou F, Shao JH, Zou SB, et al. Laparoscopic hepatectomy is associated with a higher incident frequency in hepatolithiasis patients [J]. Surg Today, 2013, 43(12): 1371-1381

- Clin Res Pediatr Endocrinol, 2013, 5 (Suppl 1): 57-69
- [12] Markovina S, Grigsby P W, Schwarz J K, et al. Treatment approach, surveillance, and outcome of well-differentiated thyroid cancer in childhood and adolescence[J]. Thyroid, 2014, 24(7): 1121-1126
- [13] 丛蕾, 刘奇, 杜贾军, 等. 儿童甲状腺癌诊断治疗特点 -- 附 49 例病例分析[J]. 肿瘤基础与临床, 2009, 22(2): 146-147
- Cong Lei, Liu Qi, Du Gui-jun, et al. The diagnostic features of thyroid cancer in children: a report of 49 cases [J]. Journal of basic and clinical oncology, 2009, 22(2): 146-147
- [14] Brink J S, van Heerden J A, Mciver B, et al. Papillary thyroid cancer with pulmonary metastases in children: long-term prognosis [J]. Surgery, 2000, 128(6): 881-886, 886-887
- [15] Corrias A, Einaudi S, Chiorboli E, et al. Accuracy of fine needle aspiration biopsy of thyroid nodules in detecting malignancy in childhood: comparison with conventional clinical, laboratory, and imaging approaches [J]. J Clin Endocrinol Metab, 2001, 86 (10): 4644-4648
- [16] Viswanathan K, Gierlowski T C, Schneider A B. Childhood thyroid cancer. Characteristics and long-term outcome in children irradiated for benign conditions of the head and neck [J]. Arch Pediatr Adolesc Med, 1994, 148(3): 260-265
- [17] Fridman M V, Kras'Ko O V, Man'Kovskaia S V, et al. The increase of non-cancerous thyroid tissue in children and adolescents operated for papillary thyroid cancer: related factors [J]. Vopr Onkol, 2013, 59(2): 121-125
- [18] Vaisman F, Bulzico D A, Pessoa C H, et al. Prognostic factors of a good response to initial therapy in children and adolescents with differentiated thyroid cancer [J]. Clinics (Sao Paulo), 2011, 66(2): 281-286
- [19] Ledbetter D J. Thyroid surgery in children [J]. Semin Pediatr Surg, 2014, 23(2): 60-65
- [20] Akkari M, Makeieff M, Jeandel C, et al. Thyroid surgery in children and adolescents: A series of 65 cases [J]. Eur Ann Otorhinolaryngol Head Neck Dis, 2014[Epub ahead of print]
- [21] La Quaglia M P, Black T, Holcomb G R, et al. Differentiated thyroid cancer: clinical characteristics, treatment, and outcome in patients under 21 years of age who present with distant metastases. A report from the Surgical Discipline Committee of the Children's Cancer Group[J]. J Pediatr Surg, 2000, 35(6): 955-959, 960
- [22] 白玉作. 儿童甲状腺癌外科手术治疗[J]. 中国实用儿科杂志, 2011, 26(9): 669-670
- Bai Yu-zuo. The surgical treatment of thyroid cancer in children[J]. Chinese Journal of Practical Pediatrics, 2011, 26(9): 669-670
- [23] Vander P V, Hens G, Delaere P. Thyroid cancer in children and adolescents [J]. Curr Opin Otolaryngol Head Neck Surg, 2013, 21(2): 135-142
- [24] Ron E, Lubin J H, Shore R E, et al. Thyroid cancer after exposure to external radiation: a pooled analysis of seven studies [J]. Radiat Res, 1995, 141(3): 259-277
- [25] Podda M G, Terenziani M, Gandola L, et al. Thyroid carcinoma after treatment for malignancies in childhood and adolescence: from diagnosis through follow-up[J]. Med Oncol, 2014, 31(8): 121
- [26] Miyakawa M. Radiation exposure and the risk of pediatric thyroid cancer[J]. Clin Pediatr Endocrinol, 2014, 23(3): 73-82
- [27] Harach H R, Soubeyran I, Brown A, et al. Thyroid pathologic findings in patients with Cowden disease[J]. Ann Diagn Pathol, 1999, 3(6): 331-340

(上接第 3501 页)

- [10] Cui L, Xu Z, Ling XF, et al. Laparoscopic hepaticoplasty using gallbladder as a subcutaneous tunnel for hepatolithiasis [J]. World J Gastroenterol, 2014, 20(12): 3350-3355
- [11] Bai XL, Chen YW, Zhang Q, et al. Acute iatrogenic Budd-Chiari syndrome following hepatectomy for hepatolithiasis: a report of two cases[J]. World J Gastroenterol, 2013, 19(34): 5763-5768
- [12] Fang CH, Liu J, Fan YF, et al. Outcomes of hepatectomy for hepatolithiasis based on 3-dimensional reconstruction technique[J]. J Am Coll Surg, 2013, 217(2): 280-288
- [13] Gupta V, Gupta P, Chandra A. Carcinoma gallbladder in a patient with choledochal cyst, cysto-hepatolithiasis, and simple liver cyst[J]. Indian J Gastroenterol, 2013
- [14] Heimes JK, Waller S, Olyee M, et al. Hepatolithiasis after Hepaticojejunostomy: Ascaris lumbricoides in the biliary tract[J]. Surg Infect (Larchmt), 2013, 14(5): 470-472
- [15] Igarashi S, Sato Y, Ren XS, et al. Participation of peribiliary glands in biliary tract pathophysiologies [J]. World J Hepatol, 2013, 5(8): 425-432
- [16] Jo JH, Chung MJ, Park JY, et al. High serum CA19-9 levels are associated with an increased risk of cholangiocarcinoma in patients with intrahepatic duct stones: a case-control study [J]. Surg Endosc, 2013, 27(11): 4210-4216
- [17] Joo I, Lee JM. Imaging bile duct tumors: pathologic concepts, classification, and early tumor detection[J]. Abdom Imaging, 2013, 38 (6): 1334-1350
- [18] Lavenant-Borja MI, Fernandez-Rivero J, Pachuca-Gonzalez D, et al. Hepatolithiasis with secondary cholangitis and supernumerary left hepatic lobe[J]. Ann Hepatol, 2013, 12(6): 966-968
- [19] Lee JY, Kim JS, Moon JM, et al. Incidence of Cholangiocarcinoma with or without Previous Resection of Liver for Hepatolithiasis [J]. Gut Liver, 2013, 7(4): 475-479
- [20] 危少华, 张同领, 李伟, 等. 腹腔镜、硬质胆囊镜、软质胆道镜三镜技术在保胆取石(息肉)术的临床应用[J]. 中华普通外科杂志, 2012, 27 (5): 373-376
- Wei Shao-hua, Zhang Tong-ling, Li Wei, et al. Combination laparoscopy, hard gallbladder endoscopy and soft choledochoscopy for removing calculi (polyp) and conserving gallbladder[J]. Chinese Journal of General Surgery, 2012, 27(5): 373-376