# 腹腔镜胆囊切除术胆管损伤的诊断与治疗

龚建平* 周永碧 韩本立 何振平 (第三军医大学附属西南医院肝胆外科中心) 重庆, 400038

提 要 目的: 总结腹腔镜胆囊切除术胆管损伤的诊断与治疗经验。方法: 分析我院 6年间共诊治的 23例腹腔镜胆囊切除术胆管损伤病例。根据胆管损伤的部位和特征,将胆管损伤分为 A~ E 5类; 主要检查方法有 B超、CT、逆行胰胆管造影术 (ERCP)、经皮肝穿胆道造影术 (PTC)、术中胆道造影术 (IOC)和瘘管造影等 6种; 按照胆管损伤类型及发现时间采取不同的治疗措施。结果: A类: 3例,表现为胆漏,诊断方法为 B超或 CT,处理方式为局部引流; B类: 1例,无症状, B超和 CT示局部胆管扩张,非手术治疗; C类 (3例)和 D类 (2例),均表现为胆汁性腹膜炎, ERCP或经瘘管造影确诊,处理方法为局部胆管缝扎加 T管引流; E类: 14例,主要表现为胆汁性腹膜炎或梗阻性黄疸,通过 ERCP或 PTC确诊,手术方式为胆肠吻合术。结论: 不同类型的腹腔镜胆囊切除术胆管损伤病例,有不同的临床特点,其诊治手段及预后也不同。

关键词 腹腔镜术; 胆囊炎 外科手术
中图法分类号 R657.4

胆管损伤是腹腔镜胆囊切除术 (Laparoscopic cholecystectomy, LC)最常见和最严重的并发症。这一特殊的损伤性并发症发生率高达 0.32%~ 1.1% [1,2], 其损伤类型极其复杂,损伤原因多种多样,诊断和治疗颇为棘手,预后也较差。我院从 1992年 9月至 1998年 10月共收治 LC胆管损伤病例 23例。本研究对 LC胆管损伤的诊断方法与治疗措施加以总结。

## 1 临床资料

本组病例 23例,其中 20例为外院 LC胆管损伤后转入我院的病例,其它 3例为本院开展 4 000余例 LC时遇到的病例。女性 17例,男性 6例,年龄 25~ 69岁,平均 47.5岁。除 2例为胆囊息肉外,余 21例均为胆囊结石,其中合并急性胆囊炎 4例,萎缩性胆囊炎 7例,1例由 IOC发现。18例为术后 1周至 1月内出现腹痛、发烧、黄疸、胆汁外漏等,通过 B超、CT、瘘道造影或 ERCP而确诊。2例为手术 1月后因反复发作的胆管炎或梗阻性黄疸经 ERCP或 PTC而确诊。LC术中发现的 3例副肝管损伤病例行中转开腹副肝管结扎或引流术; 术后确诊的 20例 LC胆管损伤病例,根据胆管损伤的部位、程度、特征及发现时间,行局部穿刺引流 4例,开腹副肝管结扎 2例, T管引流加局部缝扎或缝合 3例,其余病例行胆管空肠吻合等手术。

## 2 结果

2.1 LC胆管损伤的类型、损伤部位和特征、主要检查方法及例数,见表 1

表 1 胆管损伤特点、检查方法及例数

**Tab 1 The characteristics of bile duct injury, methods of examination and cases**

| Type | Location and characteristics | Methods | Cases |
|---|---|---|---|
| A | Bile leakage caused by injuries of cystic duct or accessory hepatic duct, | Ultrasound or CT scan | 3 |
| B | Ligation of aberrant right hepatic duct by accident, no bile leakage | Ultrasound or CT scan | 1 |
| C | Transection of aberrant right hepatic duct, bile leakage | ERCP or IOC | 3 |
| D | Perforation of common hepatic or bile duct, bile leakage | ERCP or fistulagram | 2 |
| E | Circumferential injuries of major bile duct, complete transection or stenosis of common bile duct or major hepatic duct | ERCP or PTC | 14 |

ERCP: Endoscopic retrograde cholangiopancreatography. IOC: Intraoperative cholangiography. PTC: Percutaneous transhepatic cholaniography

* 龚建平 男, 37岁,主治医师,博士研究生

?1994-2016 China Academic Journal Electronic Publishing House. All rights reserved. http://www.cnki.net

2.2　各类型 LC胆管损伤的主要临床表现、处理方式及预后见表 2

表 2　LC胆管损伤的临床表现、处理方式及预后

Tab 2　Clinical manifestations, management and outcome of bile duct injuries

| Type | Clinical manifestations | Management | Outcome |
|---|---|---|---|
| A | Abdominal pain, fever, subhepatic accumomulation of bile, bile leakage without jaundice | Local drainage or ENBD* | Well |
| B | Asymptomatic | Conservative treatment | Well |
| C | Bile leakage or bile peritonitis | Ligation of aberrant hepatic duct, T tube drainage | Well |
| D | Bile leakage, bile peritonitis or sepsis | T tube drainage or ENBD | Better |
| E | Jaundice, reccurent cholangitis or bile peritonitis plus sepsis | End-to-end repair or bilioenterostomy | Poor |

*ENBD: Endoscopic nasobiliary drainage

## 3　讨论

### 3.1　各种影像学检查方法在 LC胆管损伤诊断中的作用

由于 LC胆管损伤原因较为复杂,损伤类型多种多样,对该损伤的诊断颇为棘手,特别是绝大部分病例术中不能及时发现,因此术后对其损伤的诊断和诊断方法的选择就显得格外重要。B超能发现扩张胆管及腹腔胆汁聚集、引导穿刺引流,无创伤、价格低廉,是诊断胆管损伤最常用的方法; IOC直接显示损伤胆管,能发现胆漏或变异胆管,该方法价格也低廉,适宜术中疑有胆管损伤时用; CT能发现扩张胆管及腹腔胆汁聚集、定位胆汁聚集部位,价格中等; ERCP能发现胆管损伤确切部位,并可行鼻导管引流或 EST,能确切诊断胆管损伤部位及程度,但其价格较高,且有一定并发症; PTC能发现胆管损伤部位,确定肝内胆道解剖,属有创性检查;瘘管造影术能显示胆漏部位,属无创性检查,价格低廉;同位素肝胆扫描能发现持续性的胆漏及腹腔胆汁聚集,无创伤,价格适中。我们认为,诊断 LC胆管损伤的步骤有以下几步。术中疑有胆管损伤者,可行 IOC确诊; LC病人若术后出现腹痛、发烧、脓毒症而无明显黄疸者,可作 B超、CT判断有无腹腔内胆汁聚集;若想观察有无持续性胆漏存在,还可行同位素肝胆扫描[3],有活动性胆漏持续存在者,可行 ERCP进一步明确诊断胆管损伤的部位和类型。若术后病人出现胆汁性腹膜炎、黄疸、胆外漏等为主要表现者,可首选 ERCP, ERCP不成功或肝内胆管未显影者,考虑行 PTC确诊。若胆外胆漏持续存在,也可经瘘道造影明确诊断[4]。

### 3.2　胆管损伤的处理原则及方法

LC胆管损伤的治疗原则主要是依照胆管损伤的类型及发现时间而定。术中发现者,主张积极手术[5]。但大多数病例为术后发现,这给治疗带来了困难。其具体处理方法为: A类损伤,主要为胆囊管残端钛夹滑脱或右侧迷走胆管损伤所致,本院发生的 3例均为 A类损伤,其胆系结构保持完整,主要临床表现为胆漏或局限性胆汁性腹膜炎,通过 B超或 CT导向下的局部穿刺引流,或 ERCP鼻导管引流或/和 EST胆道减压等方法处理,大多数胆漏可自行愈合,仅少数需开腹手术[6]。B类损伤少见,若无症状,可不作特殊处理。C类损伤有较多胆汁流入腹腔,引起胆汁性腹膜炎,需开腹手术,小胆管可以结扎,较粗大的胆管应行胆管空肠吻合术。D类损伤为胆管壁部份缺损,胆汁外漏引起胆汁性腹膜炎,部分病人可通过 ERCP鼻导管引流或加 EST胆道减压,也有部分病人需开腹手术,行损伤胆管的局部修补或/和 T管引流术。E类损伤主要胆管的完整性和连续性被破坏,病情较复杂,临床表现以阻塞性黄疸为主,也可出现胆管炎或胆汁性腹膜炎、脓毒血症等,治疗颇为棘手。根据损伤类型及发现时间,可行胆管端端吻合术,或胆管空肠吻合术[7],若不具备吻合条件和技术者,也可先置管外引流,等二期行胆肠吻合术[8]。

### 3.3　LC胆管损伤预后分析

LC胆管损伤的预后与胆管损伤的类型、发现时

?1994-2016 China Academic Journal Electronic Publishing House. All rights reserved.　http://www.cnki.net

间及处理方法正确与否密切相关。A、G、D三类损伤若处理及时、方法正确,预后较好。B类损伤短期内多无明显症状,随着时间推移有可能发生局限性胆管扩张、胆管炎,最终出现肝叶或肝段萎缩,但其病例较少,其预后尚难评价。E类损伤,由于是高频电流所致,损伤部位高,组织缺损大,明显不同于开腹胆囊切除术的切割伤,此类病人术前胆管又属正常,管壁薄,管径细,胆管端-端吻合术极其困难,常需切除部分肝组织行高位胆肠吻合术[9]。此类损伤手术后易发生吻合口漏,并且有大约 33%的病例在 2年内可发生胆管狭窄[10],需再次或多次手术,预后差。部分病人可因胆汁性腹膜炎或反复发作的胆管炎而出现胆汁性肝硬化、门脉高压、肝衰等严重并发症而死亡。

## 参考文献


1 Windsor J A, Pong J. Laparoscopic biliary injury: more than a learning curve problem. Aust N Z J Surg, 1998, 68(3): 185

2 黄志强.胆管外科近年来的发展.中华普通外科杂志, 1998, 13(3): 131

3 Adler L P, Stellato T A. Cholescintigraphy in the diagnosis of bile leak after laparoscopic cholecystectomy. Am Surg, 1997, 63(7): 611

4 Strasberg S M, Hertl M, Soper N J. An analysis of the problem of biliary injury during laparoscopic cholecystectomy. J Am Coll Surg, 1995, 180(1): 101

5 Hellinger A, Lange R, Peitgen K, *et al*. Bile duct lesions in laparoscopic cholecystectomy: methods of reconstruction and results. Zentralbl Chir, 1997, 122(12): 1092

6 Gholson C J, Dungan C, Neff G, *et al*. Suspected biliary complications after laparoscopic and open cholecystectomy leading to endoscopic cholangiography: a retrospective comparison. Dig Dis Sci, 1998, 43(3): 534

7 Krawczyk M, Kania M, Zieniewicz K, *et al*. Reconstructive surgery in iatrogenic bile duct injuries. Wiad Lek, 1997, 50(Suppl Pt2): 313

8 周永碧,龚建平,王曙光.腹腔镜胆囊切除术前对合并症的诊治及术中对胆道损伤的预防.中华消化内镜杂志, 1997, 14(2): 135

9 Gigot J, Etienne J, Aerts R, *et al*. The dramatic reality of biliary tract injury during laparoscopic cholecystectomy. An anonymous multicenter Belgian Survey of 65 patients. Surg Endosc, 1997, 11(2): 1171

10 Lillemoe K D. Benign post-operative bile duct strictures. Baillieres Clin Gastroenteral, 1997, 11(4): 749


(收稿: 1998-09-30;修回: 1999-05-14)

(编辑 冷怀明)

# Diagnosis and treatment of bile duct injury in laparoscopic cholecystectomy

Gong Jianping, Zhou Yongbi, Han Benli, He Zhenping (Department of Hepatobiliary Surgery, Southwest Hospital, Third Military Medical University, Chongqing, 400038)

**Abstract** Objective: To summarize our experience in the diagnosis and treatment of biliary injuries after laparoscopic cholecystectomy. Methods: 23 cases were managed in our institute in recent 6 years. All the cases were divided into 5 types from type A to type E on the basis of the clinical findings and treated with different methods accordingly. Results: 3 cases in type A presenting biliary leakage were discovered with ultrasonography or CT scanning and treated with local drainage. 1 case of type B showing no symptoms was found to have distended right hepatic duct on ultrasonography and CT scanning and received conservative measures. All the 3 cases of type C and 2 cases of type D presented the symptoms of generalized peritonitis and diagnosed with ERCP or fistulogram. They were treated with sutures of the leaking duct and T-tube drainage. 14 cases of type E presented the symptoms of generalized peritonitis or obstructive jaundice and their clinical findings were verified with ERCP or PTC. They were treated with bilioenterostomy. Conclusion: Patients with different types of biliary injury presenting different characteristics should be diagnosed and treated with different methods accordingly and variable outcomes were obtained.

**Key words** laparoscopic cholecystectomy; cholecystitis/su.

?1994-2016 China Academic Journal Electronic Publishing House. All rights reserved. http://www.cnki.net