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腹腔镜胆囊切除术(LC 术)致胆管损伤的诊治体会

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摘要 目的:总结腹腔镜胆囊切除术(laparoscopic cholecystectomy,LC 术)中胆管损伤的诊治体会。**方法:**回顾 19 例 LC 术致胆管损伤病例的临床资料,分析其发生的类型及原因,并总结其诊断和治疗要点。**结果:**19 例患者中,1 例发生在左右肝管汇合以上处损伤,2 例发生胆总管缺损伤,3 例发生胆总管横断伤,5 例发生胆总管侧面伤,3 例发生胆总管钳夹但未切断,1 例发生右肝管损伤,4 例发生胆囊管残端漏。治疗方法应视胆管损伤类型的不同而不同。采用断端处胆管端端吻合,同时放置 T 管引流、单纯胆总管 T 管引流、开腹去除误夹夹子、ERCP 检查放置鼻胆管引流及胆肠 Rouxeny 吻合术。胆肠 Rouxeny 吻合术是临床上最常用的修补胆道损伤的手术方法。随访 6 个月～18 年,恢复好,无 1 例死亡。**结论:**胆管损伤是 LC 术最常见的并发症之一,规范的操作及手术适应症的掌握能减少其发生。一旦出现胆管损伤,及时诊断及正确处理能减少其不良后果。

关键词:腹腔镜;胆囊切除术;胆管损伤;诊治体会

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Experience of Diagnosis and Treatment of Bile Duct Injury in Laparoscopic Cholecystectomy

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ABSTRACT Objective: To summarize the experience of diagnosis and treatment of bile duct injury (BDI) in laparoscopic cholecystectomy(LC). **Methods:** The clinical data of 19 cases of bile duct injury caused by LC were retrospectively analyzed, the types of injury and treatment methods of bile duct injury were analyzed, and the key points of diagnosis and treatment of bile duct injury in LC were summarized. **Results:** In 19 cases, injury above the join of the right and left hepatic duct occurred in 1 case, common bile duct lack of injury occurred in 2 cases, common bile duct transection occurred in 3 cases, common bile duct side hurt occurred in 3 cases, common bile duct clamped but not cut off occurred in 3 cases, right hepatic canal injury occurred in 1 case, cystic duct stump leakage occurred in 4 cases. Treatment should vary depending on the type of BDI. Ends at the bile duct anastomosis, while placing a T-tube drainage, simple common bile duct T-tube drainage, laparotomy place mistakenly folder clip, ERCP examination placed the ENBD and bilioenteric Rouxeny anastomosis. Biliary-enteric Rouxeny anastomosis is the most commonly surgical method of repair of bile duct injury. Followed up for 6 months -18 years to restore, no deaths. **Conclusion:** BDI was one of the most common complications of LC technique, normative operation and mastery of the indications for surgery could reduce its occurrence. Once BDI occurred, prompt diagnosis and effective treatment could reduce the adverse consequences of bile duct injury.

Key words: Laparoscopy; Cholecystectomy; Bile duct injury; Experience of diagnosis and treatment

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前言

腹腔镜胆囊切除术(LC)的日渐成熟,使其成为胆囊切除的首选治疗方式,但 LC 致胆管损伤的病例数亦随之增多,严重影响患者的疗效和生活质量。我院自 1992 年 5 月～2011 年 12 月间共施行腹腔镜胆囊切除术(LC)2100 例,其中致胆管损伤 19 例。本研究对 LC 术中胆管损伤的诊断及治疗体会进行总结如下。

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1 临床资料

1.1 一般资料

我院 1992 年 5 月～2011 年 12 月间共施行腹腔镜胆囊切除术(LC 术)2100 例,其中男性 680 例,女性 1420 例;年龄 15～82 岁,平均年龄 55 岁;住院天数 1～31 天不等,平均 5.6 天。根据病人的临床表现分为两组,择期手术组为慢性胆囊炎伴胆囊结石或胆囊息肉者 1600 例,术前 3 个月无任何症状,血尿常规、肝肾功能等大致正常,B 超提示胆囊轮廓清,胆囊壁厚度在(0.25± 0.1)厘米左右;急诊手术组为急性胆囊炎伴胆囊结石病人 500 例,其中有发热者 220 例(44%),白细胞及中性粒细胞升高者 410 例(82 %),肝功能示黄疸指数升高及 ALT 异

常者 150 例（30%），B 超提示胆囊壁厚度超过 0.6 厘米 170 例（34%），胆囊颈部结石嵌顿并有胆囊积液者 190 例（38%），按时间来分，前 5 年共完成手术 580 例，后 15 年为 1520 例。

1.2 手术方法

本组 2100 例患者均在全麻下行 LC 术。常规四孔法，建立 CO2 气腹。探查腹腔，暴露肝门、肝十二指肠韧带及胆囊三角区，用左手胆囊抓钳钳夹胆囊壶腹部，向右上方牵引形成一定张力，以充分显露胆囊三角前面浆膜。用超声刀或电凝钩及吸引器等充分显露胆囊前后三角区，根据胆囊管走行、直径及胆囊管可松弛起皱折等与胆总管不同的解剖学特点，夹闭后离断胆囊管，再解剖出胆囊动脉并夹闭离断，最后剥离胆囊。择期手术组中胆囊息肉 150 例（9.4%），单发结石 420 例（26.2%），多发结石（64.4%）；急诊手术组单发结石 210 例（42%），多发结石 290 例（58%），其中胆囊结石颈部嵌顿 240 例（48%）。

2 结果

共发生胆管损伤 19 例，占 0.09%。按病情来分，发生在择期手术组 15 例，发生在急诊手术组 4 例；按时间来分发生在前 5 年中 11 例（1.89%），发生在后 15 年中 8 例（0.53%）。

损伤类型：发生在左右肝管汇合以上处损伤 1 例，当时行左右肝管整形与胆总管远端吻合，T 管支撑引流，术后 3 个月出现反复胆道感染，MRCP 示肝门处胆管狭窄，再次行肝门胆管 - 空肠 " 盆式 "Rouxeny 吻合术，术后随访 6 月余，无再次胆道感染表现；胆总管缺损伤 2 例，在当时行胆肠 Rouxeny 吻合术；胆总管横断伤 3 例，行断端处胆管端端吻合，同时放置 T 管引流；胆总管侧面伤 5 例，3 例放置 T 管引流，2 例行 ERCP 检查发现有少量胆漏，放置鼻胆管引流 6 天后治愈；胆总管钳夹但未切断 3 例，予开腹去除夹子；右肝管损伤 1 例，行 ERCP 检查发现有少量胆漏，放置鼻胆管引流 4 天后治愈；胆囊管残端漏 4 例，1 例开腹结扎胆囊管（当时尚未开展 ERCP），3 例行 ERCP 检查放置鼻胆管引流 3～7 天后治愈。术中及时发现胆管损伤 13 例，术后延迟发现 6 例。最长一例于术后 5 天发现。随访期限 6 月～18 年不等，因胆管狭窄反复胆道感染 1 例，再次行胆管 - 空肠 Rouxeny 吻合术后痊愈，1 例胆总管横断伤行胆管端端吻合术，术后 1 年因胆总管狭窄予 ERCP 多支架扩张引流后痊愈，其余都恢复良好。本组无 1 例死亡。

3 讨论

3.1 LC 术致胆管损伤的发生率

胆管损伤是 LC 术中最常见的因操作不当而产生的并发症。国外文献报道，其发生率为 0.2%～1.0%[1,2]，我国统计为 0.4%～1.3%，比传统的开腹方法高 3～4 倍[3]，即使一些研究中心的数据表明胆管损伤发生率逐渐降低[4]，肝外胆管损伤仍是 LC 最严重的手术并发症之一，尤其以胆囊三角区胆道的近期、远期损伤等最为常见及严重，同时也给术中、术后处理带来极大困难，甚至造成患者终身残疾，更为严重的是造成患者死亡[5]。我国胆囊结石病人之多，胆囊切除术普及之广，尤其是腹腔镜胆囊切除的蓬勃开展，而手术医师素质差异之大，估计我国实际的胆管损伤率比文献及会议报道更高[6]。本组的统计资料表明，前 5 年 LC 术胆管损伤的发生率要比后 15 年高 3 倍以上，但总的发生率仍低于 1%。

3.2 LC 术致胆管损伤的发生机理

胆管损伤及胆漏是 LC 术常见而严重的并发症[7-12]。Parmeggiani[13]等认为以下情况可能引起 LC 术中胆管损伤：（1）把胆总管、右肝管或畸形的右肝管误认为是胆囊管，而加以分离钳夹并切断，有一种类型的解剖变异容易被术者所忽视，由于肝 IV 段发育不全使胆囊管与肝总管距离较近，解剖分离中容易损伤肝总管，因此当术中发现胆囊床与肝圆韧带距离较近时应考虑到解剖变异存在[14]；（2）过度地牵拉胆囊使胆总管成角，后把胆总管误认为是胆囊管加以处理；（3）过多地解剖胆总管周围组织，使其去血管化，另外因使用钛夹、电刀或超声刀不当等；（4）手术者临床经验缺乏或过度自信；（5）手术指证掌握不严或局部解剖因素及局部病理因素密切相关[15]，如胆囊处于急性感染期，胆囊周围有粘连，胆囊壁充血水肿明显，胆囊张力高，胆囊床过深，病人过于肥胖而胆囊三角暴露不佳，术中有出血而影响手术视野等。分析本组 19 例胆管损伤的原因，胆总管过细且过分游离，误将胆总管作为胆囊管加以游离钳夹切断等处理共 7 例，使用电刀或超声刀不当造成胆总管管壁损伤 3 例，急诊手术因解剖不清造成胆总管缺损伤及管壁损伤 4 例，右肝管畸形 1 例，钛夹过短造成胆囊管夹闭不全 4 例。

3.3 LC 术致胆管损伤的诊断

LC 术致胆管损伤的诊断有时比较迟，在术中及时发现的约占 50%，另有一半病人术后出现腹痛、恶心呕吐、发热及黄疸等症状后，通过 ERC、PTC、CT 或超声检查被发现，或腹腔引流管内有胆汁样液体引出时被确诊。本组病例中术中及时发现的有 13 例，占 68%，我们的体会是当离断 " 胆囊管 " 时有清亮的胆汁溢出，或离断的胆管呈 " 双管征 "，或用超声刀切断胆囊以外的组织时有 " 水汽 " 时，就应高度怀疑有胆管损伤发生。在胆囊三角区炎症粘连较重，行胆囊切除后可在胆囊三角区放一白纱布片刻（3～5 min），观察有无胆汁染色，如有染色要寻找胆管损伤处，及时妥善处理，否则以后发现会给处理造成困难[16]。对那些术中胆囊三角处理不满意者，或胆囊床剥离时有渗血者常规放置小网膜孔引流管，以便及时发现有胆管损伤或出血等并发症。

3.4 LC 术致胆管损伤的治疗

LC 术如果发生了胆管损伤，应尽快地在确定损伤类型的情况下进行修补手术，当解剖分离困难时应果断中转开腹，在微创技术高度发展的今天，腹腔中转开腹的几率也高达 3.6%～13.9%[17]；还应根据病情有计划、有步骤地进行胆道修复重建，并根据具体损伤时间、部位及损伤程度及类型的不同，选择适宜的处理方式[18]。胆肠 Rouxeny 吻合术是临床上最常用的修补胆道损伤的手术方法[19]，剖腹探查手术的时间选择对胆管损伤患者的预后也很关键。Ajay K[20]认为，胆管修复手术应在术后 <72 小时或 >6 周进行。对于 LC 术后怀疑胆漏的病人应尽早行 ERCP 检查，明确胆漏的部位及程度，建立确实有效的胆道引流；对于术中未放置引流管者，经 ERCP 置鼻胆管引流后

可在超声引导下穿刺置管引流；若术中已放置腹腔引流管，则在 ERCP 检查时行经鼻胆管引流术，只要胆总管下端无梗阻，引流量会逐渐减少而自愈[21]。经内镜行胆管引流有利于降低胆管内压力，减少胆汁从漏口流出，减轻局部组织化学刺激，控制感染，及时有效的胆管减压引流有利于胆漏早期愈合，可减少其并发症[22]。文献报道，内镜技术对于胆囊管残端漏的治疗成功率几乎为 100%[23]。本组有 1 例发生在左右肝管汇合以上处损伤，当时行左右肝管整形与胆总管远端吻合，T 管支撑引流，术后 3 个月出现反复胆道感染，MRCP 示肝门处胆管狭窄，再次行肝门胆管 - 空肠 " 盆式 "Rouxeny 吻合术，术后随访 6 月余，无再次胆道感染表现；另 2 例胆总管缺损伤病例，因缺损长度偏长，行端端吻合有较大张力，故在当时行胆肠 Rouxeny 吻合术，疗效良好。对于胆管的横断伤，如果单纯行断端处胆管端端吻合，大多数病人可因吻合口漏或裂开而失败，故应同时放置 T 管引流，且放置的时间至少要半年以上，以避免术后的胆道狭窄，如果出现胆道狭窄予 ERCP 多支架扩张引流；另外对于胆总管侧壁损伤则放置 T 管引流，如行 ERCP 检查发现破口较小，则放置鼻胆管引流；误夹胆管的去除夹子即可；对于胆囊管残端或肝管分支漏者行 ERCP 检查放置鼻胆管引流 3～7 天后治愈。

综上所述，胆管损伤是腹腔镜胆囊切除术中最常见的并发症之一，一旦发生后果比较严重。一方面，我们要严格遵守腹腔镜胆囊切除术的操作规范，掌握手术指证，减少其发生，当解剖分离困难时应果断中转开腹；另一方面，一旦发生胆管损伤，要作出及时诊断，并作相应处理，减少因胆管损伤而造成的不良后果。

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TGF-β1 可能具有相关性，两者可能通过某种信号通路共同调节滋养细胞的分化，迁移及侵袭能力。但关于 IGF-1 与 TGF-β1 在胚胎停育整个病理生理过程中的作用机制，需要我们进一步进行研究。

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