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·文献综述·

微创技术在胆总管结石并发急性重症胆管炎的应用现状

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摘 要 急性重症胆管炎是因急性胆管梗阻继发化脓性感染所致。具有发病急骤，病情变化快，病死率高的特点。在怀疑或确诊的同时应积极非手术治疗，随后根据患者情况，选择可行的手术方式。随着微创技术的发展及医疗水平的提高，在通畅引流的前提下，一次性解除梗阻原因的手术也相继报道。笔者分别对内镜、经皮肝穿刺胆道引流、腹腔镜等为主的微创技术在治疗胆总管结石并发急性重症胆管炎的现状进行综述。

关键词 胆管炎；胆总管结石；外科手术，微创性；综述文献
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Application of minimally invasive techniques in treatment of common bile duct stones complicated with acute cholangitis of severe type: current status

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Abstract Acute cholangitis of severe type (ACST) is caused by suppurative infection following acute biliary obstruction, characterized by sudden onset, rapid change of morbid condition, and high mortality rates. Non-surgical treatment should be initiated aggressively as soon as ACST is suspected or confirmed, and then selection of appropriate surgical procedure can be decided according to the conditions of the patients. With the development of minimally invasive technology and the improvement of medical science, reports on one-session surgical removal of cause of obstruction on the premise of unobstructed drainage have been available. In this paper, the authors present the current status of treatment of common bile duct stones complicated with ACST by minimally invasive techniques that mainly include endoscopic, percutaneous transhepatic biliary drainage and laparoscopic techniques.

Key words Cholangitis; Choledocholithiasis; Surgical Procedures, Minimally Invasive; Review
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急性重症胆管炎（ACST）也称急性梗阻性化脓性胆管炎，是严重的胆管感染疾病，具有发病急骤，病情变化快，病死率高的特点，常伴有全身炎症反应及多器官功能障碍。其发病基础是急性胆管梗阻继发化脓感染[1]，其中梗阻的主要原因是胆总管结石[2]，而感染的主要病原菌是肠内细菌（多数是大肠杆菌[3]）。临床诊断主要依据实验室

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检查（白细胞、CRP等）、影像学资料（彩超、CT、MRI等）、临床体征及症状（高热、腹痛、黄疸、休克等）。而东京急性胆管炎指南建议的“金标准”是符合3项中的任意一条：⑴ 观察到脓性胆汁；⑵ 胆管引流后临床症状缓解；⑶ 通过抗菌治疗患者胆道系统感染缓解[4]。在怀疑或确诊的同时应积极治疗，常规治疗包括禁食水、抗感染、补液等，必要时应用激素及血管活性药物，维持水电解质和酸碱平衡，并早期实施手术治疗。随着微创技术的发展及医疗水平的提高，在通畅引流的前提下，一次性解除梗阻原因的手术也相继报道[5]。现依据目前微创技术在治疗胆总管结石并发急性重症胆管炎的现状进行综述。

1　以内镜为主的微创治疗

内镜应用于治疗胰胆管疾病经历了40多年发展，现已被公认为是一项恢复快、对患者生理干扰小的诊疗方法。其优点[6]在于：⑴ 利用胆道造影，明确病变性质及部位；⑵ 操作范围小，阻止病情的恶化；⑶ 插管成功后，能降低胆道压力，有效解除梗阻；⑷ 可有效减少后期手术的病死率。内镜操作更适合于无明显休克、酸中毒、凝血功能障碍等并发症患者、结石位于胆总管下段、结石数量不多。其并发症[7]主要包括：胆道出血、肠穿孔、急性胰腺炎等。内镜操作包括内镜下十二指肠乳头括约肌切开术（EST）、内镜下十二指肠乳头气囊扩张术（EPBD）、内镜下鼻胆管引流术（ENBD）、经内镜置入胆管塑料支架引流术（ERBD）等。有研究[8]报道EST在治疗胆总管结石并发的急性重症胆管炎取净结石（包括碎石器碎石、网篮取石、气囊取石、胆道冲洗）的成功率约为97%，而病死率仅4%，主要因素与操作者经验、结石大小、数量、性状等有关[9]；鉴于EST可引起Oddi括约肌功能永久丧失、增加肠液逆流机会造成的胆总管结石复发风险等不足[10]，有关文献[11]认为EPBD和（或）联合括约肌小切口可减少该并发症；而Zhang等[12]认为对于十二指肠乳头炎性狭窄和浓稠胆汁的患者，EST可增加ENBD引流的效果；在放置引流管的选择上，更多人倾向于ENBD，主要认为ENBD可以减少巨大胆总管结石（直径>2 cm）引起的急性化脓性胆管炎的住院时间[13]，可以预防术后急性胰腺炎及高淀粉酶血症[14]，还可以应用中药灌注，减少应用抗生素时间及降低病死率[15]；谢宏民等[16]认为两种胆管引流（ERBD和ENBD）是急性重症胆管炎患者有效的治疗方法，但ERBD阻塞率更高，如果患者脓性胆汁较多，且肝功能较差的情况下，应选择ENBD；对于一次性清除胆总管结石的一项前瞻随机实验[17]证明：放置ENBD引流是不必要的;对于传统的内镜治疗在X线引导下进行可引起辐射、部分老年患者病情危重，不宜搬动等情况，陈文智等[18]应用超声引导内镜治疗急性重症胆管炎，治疗效果理想；Kahaleh等[19]认为内镜超声胆道引流（EGBD）可用于ERCP失败、十二指肠乳头堵塞等情况。

2　以经皮经肝胆管引流（PTCD）为主的微创治疗

PTCD于1962年应用治疗肝外梗阻性黄疸、急性重症胆管炎，具有操作简单、风险低、损伤小、穿刺成功率高、抢救治疗效果明显等优点[20]，可减少细菌及内毒素吸收，缓解急症以及为择期确定性手术创造了条件。主要适应于病情危重、高位胆总管梗阻、经历过胃肠道重建术、上消化道狭窄、Oddi括约肌憩室等患者[21]；其并发症[22]包括胆道出血、胆瘘、胆汁性腹膜炎、支架堵塞。PTCD不仅作为恶性梗阻的姑息治疗[23]和ERCP失败后的补救[24]，而且以PTCD为主的序贯治疗与直接开腹手术治疗胆总管结石并发急性重症胆管炎研究显示：PTCD可以阻止重症胆管炎的病理生理发展，稳定患者的生命体征，改善肝功能和患者一般情况，提高患者对麻醉及手术的耐受能力，将急诊手术转变成非急诊手术，降低并发症及病死率[25]；对于病情危重、低位胆道梗阻且胆囊管通畅伴胆囊增大的急性重症胆管炎可行经皮经胆囊穿刺（PTGBD），提高穿刺的成功率，帮助患者平稳度过危险期[26]；孙科等[27]在CT定位、X线透视下行PTCD，在明确胆道梗阻部位以上胆道内行外引流或引入十二指肠内留置，形成内外引流，有利于术后PTCD夹管，胆汁回流入肠内；王平等[28]报道在急性重症胆管炎患者恢复凝血功能后，B超定位下一次扩张胆管，应用硬质胆道镜通过扩张瘘管，行胆道镜取石（碎石），使治疗周期明显缩短，并减少了反复进镜取石的操作的次数和患者痛苦，提高了安全性和有效性；Bohlsen等[29]报道PTCD联合ERCP双向对接技术为我们提

供了新思路、新方法，具有临床应用潜力。

3 以腹腔镜为主的微创治疗

腹腔镜胆总管切开取石术（LCBDE）于1991年Philip[30]首先报告，同年Stoker等[31]报道了腹腔镜下经胆囊管胆总管探查取石术（LTCBDE）。随着腹腔镜技术的进步,它在胆道外科手术领域也逐渐增宽，除了腹腔镜胆囊切除术被作为“金标准”外，正向肝内胆管结石、胆道炎症等方面发展。腹腔镜胆总管切开取石术具有住院时间短、手术步骤少、保留括约肌功能等[32]优点，近年来在胆总管结石并发的急性重症胆管炎治疗的相关文献也有报道[33]。主要适应证[34]包括Mirizzi综合征、无腹部手术史、患者能耐受麻醉、胆总管直径≥1.0 cm等；存在的并发症包括出血、胆总管损伤、胆瘘、肝下脓肿等。虽然手术术区渗血及胆管壁缝合困难，但在选择合适的病例，腹腔镜胆总管切开取石术治疗急性重症胆管炎是可行有效和安全的[35]；对于是否留置T管，Martínez-Baena[36]认为在存在ENBD的情况下可以一期缝合胆总管；而Zhu等[37]认为胆管炎症时留置T管更充分引流感染的胆汁；腹腔镜配合胆道镜不仅术中避免盲目探查胆管结石引起的胆道出血、穿孔，降低残石率，而且术后可通过T管瘘道取石[38]；李荣霖等[39]对开腹和腹腔镜联合胆道镜手术治疗急性重症胆管炎患者的研究显示与Gheorghe等[40]研究结果相同，提示：腹腔镜手术更有利于患者术后的炎症恢复，在外科手术中有广泛的应用及推广价值。

急性重症胆管炎的治疗措施是针对细菌感染（直接的抗菌疗法）和胆管梗阻（胆道引流）这两个主要相关的病理生理的部分，及时、有效地胆道减压引流能解除胆道梗阻、通畅引流，是阻断ACST恶性循环的关键。国内文献[41]推荐首选内镜下胆道引流，经皮胆道引流可作为备选方式。迅速的临床识别和准确的诊断检查（包括足够的实验室评估和影像资料）是急性重症胆管炎管理的必要步骤，既往由于患者病情重及开腹手术创伤大等打击，患者的预后较差[42]。而当今逐渐步入微创时代，根据患者疾病严重程度，损伤控制的前提下[43]，选择损伤小、效果佳的引流方式，使微创技术在治疗胆总管结石并发重症胆管炎发挥更大的作用[44]。

综上所述，应用微创技术治疗相对方便迅速、对患者损伤小、临床疗效确切，能够降低急性重症胆管炎病死率，最大限度挽救患者生命，特别适合合并其他器官疾病和功能异常者的老年患者[45]。目前，治疗重症胆管炎的微创技术以上述3种为主，至于应用何种方式进行治疗，则视患者情况，取单一术式或综合术式处理，达到治疗目标。对于一期只能行通畅引流的患者，建立胆汁引流通道，降低胆道内压，减少细菌及胆汁入血，从而改善患者的感染、休克的状态，为后续治疗提供保障，二期可与一种或二种微创手术方式结合，达到更好的治疗效果。这3种微创技术已经成为治疗胆总管结石并发的重症胆管炎的首选方式，而传统的开腹手术作为一种补救措施[46]。随着微创技术的广泛应用，正确把握手术时机和适应证，选择最简便、经济、合理安全手术方式，将成为未来研究的发展方向[47]。

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