

· 论 著 ·

72 例胰腺损伤诊治分析

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摘要:目的 探讨胰腺损伤的诊断和治疗方法。方法 对近 10 年间该院手术治疗的胰腺损伤 72 例作回顾性分析。主要诊断技术为 CT, MRI, 内镜逆行胰胆管造影(ERCP)等;手术方法包括修补加引流术、远端胰腺切除术、空肠与远端胰腺 Roux-en-Y 吻合术、胰十二指肠修补术加广泛引流、胰十二指肠修补术加憩室化术和“损伤控制外科(DCS)”术等术式。结果 52 例腹内脏器合并伤中,穿透伤 13 例(25%),钝性伤 39 例(75%),二者比较差异无统计学意义($\chi^2=0.000, P>0.05$);49 例腹外部位合并伤中,穿透伤 6 例(12.24%),钝性伤 43 例(87.76%),二者比较差异有统计学意义($\chi^2=13.310, P<0.01$)。72 例患者中死亡 9 例(12.5%),合并伤、失血总量、伤后至手术时间等因素与患者死亡具有相关性($P<0.05$)。术后并发症共 18 例(25%),I~II 级伤 3 例,III~V 级伤 15 例,二者比较差异有统计学意义($\chi^2=10.667, P<0.01$)。术后并发症包括出血、胰瘘、胰腺假性囊肿、胰腺脓肿、创伤性胰腺炎、胰腺内外分泌功能障碍等。72 例患者中存活 63 例。34 例胰腺损伤级别为 III~V 级的患者,伤后随访 6 个月至 22 年(中位数随访时间 2 年),情况良好。结论 避免胰腺损伤早期漏诊,手术时迅速控制合并伤大出血,按胰腺损伤分级采用不同术式,可明显减少并发症和病死率。

关键词:胰腺;创伤和损伤;诊断;外科手术

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Analysis of diagnosis and treatment of 72 cases with pancreatic injuries

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Abstract: Objective To explore diagnostic and therapeutic modalities of pancreatic trauma. **Methods** The dates of 72 patients with pancreatic injuries treated operatively during the past 10 years in chongqing emergency medical center (CEMC) were studied retrospectively. The diagnostic methods were mainly CT, MRI, and ERCP etc. Various surgical procedures included simple suture or drainage, distal pancreatectomy, distal pancreaticojejunostomy, pancreaticoduodenal repair plus a diverticularization and multiple drainage, Whipple's procedure, and damage control surgery (DCS), etc. **Results** 52 patients had associated injuries of other viscera in the abdomen; of them 13 (25%) were penetrating injury, and 39 (75%) blunt ($\chi^2=0.000, P>0.05$). 49 patients sustained simultaneity extra-abdominal injuries; of them 6 (12.24%) were penetrating, and 43 (87.76%) blunt ($\chi^2=13.310, P<0.01$). The overall mortality rate was 12.5% (9/72). Relatively lethal factors were associated injuries, the amount of blood loss, and preoperative time, etc. Postoperative morbidity was 25% (18/72) including bleeding, pancreatic fistula, pancreatic pseudocyst, pancreatic abscess, traumatic pancreatitis, and disfunction of internal and external secretion of the pancreas, etc. There was a significant difference of the incidence of postoperative complication between grade III-V (15/18) and grade I-II (3/18, $\chi^2=10.667, P<0.01$). Of 63 survivors, 34 with pancreatic injury of grade III-V were followed up from 6 months to 22 years (medium was 2 years), the patients' conditions were well. **Conclusion** To decrease obviously the morbidity and mortality in the patients with pancreatic injuries, it is critical that initially missed diagnosis of pancreatic injuries is avoided, massive hemorrhage from associated injuries is ceased expeditiously during the operation, and a corresponding surgical procedure is selected exactly based on the classification of pancreatic injury.

Key words: pancreas; wounds and injuries; diagnosis; surgical procedures, operative

近年来,胰腺损伤的发病率在中国呈明显增高的趋势,这与车辆逐年增多有关。而车祸中方向盘损伤是导致胰腺损伤的重要原因。胰腺损伤容易发生早期漏、误诊,带来严重后果;同时,手术治疗方法的不恰当,也会增加并发症的发生率和致死率^[1-4]。因此,对早期诊断和正确的手术方式需加强认识。现结合本院 2002 年 1 月至 2011 年 12 月手术治疗的胰腺损伤患者 72 例,进行回顾性分析。

1 资料与方法

1.1 一般资料 本组 72 例患者中男 61 例,女 11 例;年龄 17~82 岁,平均 32.8 岁。穿透伤 18 例,钝性伤 54 例;39 例交通事故伤中,35 例为方向盘损伤。受伤至入院时间小于 1 h 者 36 例,≥1~6 h 者 28 例, >6 h 者 8 例。42 例患者入院时有失

血性休克。除 20 例患者单一胰腺损伤(穿透伤 5 例,钝性伤 15 例)外,其余 52 例患者均合并腹内其他脏器损伤。52 例合并伤中,49 例还合并腹外部位伤;35 例方向盘所致胰损伤中,28 例合并心肌挫伤。

1.2 胰腺损伤诊断 术前诊断 24 例(33.3%),包括 CT 确诊 22 例,内镜逆行胰胆管造影(ERCP)确诊 2 例;术中诊断 48 例(66.7%),18 例穿透伤患者和 30 例钝性伤患者系急诊剖腹术中确诊胰腺损伤。全组均有腹部体征,18 例血清淀粉酶增高,11 例腹腔穿刺液淀粉酶增高,44 例腹腔穿刺抽出不凝血。胰腺损伤部位:胰头 17 例,胰颈 7 例,胰体 25 例,胰尾 23 例。美国创伤外科学会器官损伤分级(AAST-OIS)^[5]: I 级 8 例, II 级 28 例, III 级 19 例, IV 级 11 例, V 级 6 例。主胰管损伤共占

全组的 50.0%。

1.3 治疗方法

1.3.1 胰腺损伤治疗 胰腺损伤手术方式见表 1。其中 4 例实施“损伤控制外科(damage control surgery, DCS)”术,具体方法是将治疗分 3 阶段,(1)初期简化手术:仅暂时止血(结扎、填塞)和阻断污染(钳闭或结扎断裂肠管等),并作腹腔引流;(2)ICU 复苏:纠正血流动力学障碍,改善通气,治疗“致死三联征”;(3)48~72 h 后行确定性手术^[2,6-10]。4 例初期手术仅止血、阻断污染和引流,ICU 复苏成功的 2 例在 48~72 h 行保脾远端胰切除术。采用任何术式均同时作充分的腹腔引流,并在术后给予抑分泌治疗,包括禁食、胃减压、肠外营养和使用分泌抑制药。术后无胰痿者,使用奥曲肽 0.1 mg 皮下注射,每日 3 次,3~5 d 停药;腹腔引流管在手术 1~2 周后拔除,并停止胃减压和开始流质饮食。发生胰痿者,连续使用奥曲肽;漏量大于 300 mL/d 者,改用生长抑素 6 mg/d,静脉泵持续输入,并继续胃减压和肠外营养(3 例在术后 7~10 d 经鼻肠管做空肠营养)。所有患者均使用预防性抗生素。

表 1 72 例胰腺损伤急诊手术方式(n)

手术方式	手术例数	存活例数
远端胰腺切除术	24	24
空肠与远端胰腺 Roux-en-Y 吻合术	4	4
胰十二指肠修补术加广泛引流	2	2
胰十二指肠修补术加憩室化术	2	2
胰十二指肠切除术	2	2
DCS 术	4	2
修补加引流术	36	29

1.3.2 合并伤治疗 腹内脏器合并伤均在急诊剖腹术同时处理;腹以外部位伤,除心肌挫伤行心肌保护、限液和药物等治疗外,需手术者在急诊剖腹术后血流动力学已稳定情况下,施行相应手术,手术方式见表 2。

表 2 合并伤手术方式(n)

手术方式	手术例数	存活例数
脾切除术	34	32
肝修补术	20	18
腹内血管修补或结扎	15	11
胃修补	10	10
小肠修补或切除	12	12
结肠修补或切除	9	9
肾切除	6	6
肾修补	9	9
膈肌修补	4	4
膀胱修补造瘘	2	2
颅内血肿清除术	2	2
肋骨内固定术	8	8
脊柱骨折切开整复内固定术	3	3
骨盆骨折切开整复内固定术	2	2
四肢骨折切开整复内固定术	9	9

1.4 统计学处理 使用 SPSS17.0 统计软件进行统计学处理,计数资料采用 χ^2 检验,以 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 合并伤损伤分类结果 52 例腹内脏器合并伤中,穿透伤 13 例(25.0%),钝性伤 39 例(75.0%),二者比较差异无统计学意义($\chi^2 = 0.000, P > 0.05$);49 例腹以外部位合并伤中,穿透伤 6 例(12.2%),钝性伤 43 例(87.8%),二者比较差异有统计学意义($\chi^2 = 13.310, P < 0.01$)。

2.2 患者死亡相关因素分析结果 72 例患者中死亡 9 例(12.5%)。其中 8 例患者死于血管损伤或其他实质脏器大出血;另 1 例患者合并有单纯肋骨骨折和小量血胸,术中对主胰管损伤只做了修补和引流,术后出现大量胰漏和胰腺脓肿,继发大出血和肠痿,最后该患者死于全身炎症反应综合征。72 例患者死亡相关因素分析见表 3。

表 3 72 例患者死亡相关因素分析

相关因素	n	死亡例数(n)	χ^2	P
胰腺损伤级别				>0.05
I~II	36	4	0.127	
III~V	36	5		
损伤分类				>0.05
穿透伤	18	3	0.381	
钝性伤	54	6		
合并伤				<0.05
无	20	0	3.956	
有	52	9		
失血总量(mL)				<0.01
<3 000	54	2	15.280	
≥3 000	18	7		
伤后至手术时间(h)				<0.01
<6	62	1	48.376	
≥6	10	8		
术后并发症				>0.05
无	46	0	2.596	
有	18	1		

2.3 并发症发生情况 术后并发症共 18 例(25%),I~II 级伤 3 例,III~V 级伤 15 例,二者比较差异有统计学意义($\chi^2 = 10.667, P < 0.01$)。术后并发症包括出血、胰痿、胰腺假性囊肿、胰腺脓肿、创伤性胰腺炎、胰腺内外分泌功能障碍等。

2.4 随访结果 72 例患者中存活 63 例。34 例胰腺损伤级别为 III~V 级的患者,伤后随访 6 个月至 22 年(中位数随访时间 2 年),情况良好。

3 讨论

本组钝性伤占 75.0%,与 Ahmed 和 Vernick^[2]及 Stawicki 和 Schwab^[9]报道的穿透伤占多数相反。本组中方向盘所致胰腺损伤占 48.6%,其中 80.0%还合并钝性心脏损伤。交通事故中方向盘损伤时,应高度警惕胰腺和心脏损伤的发生。急诊剖腹术时应剪开胃结肠韧带仔细探查胰腺,尤其注意有无主胰管损伤。本组 2 例虽术中未发现胰腺挫裂伤,但漏诊主胰管伤,手术方式不到位,术后并发胰痿,经螺旋 CT 和 ERCP 证实主

胰管断裂。因此,即使胰腺小血肿也要剪开包膜探查,仔细显露腺体破裂处主胰管,挤压胰腺观察有无胰液从破口溢出。未行急诊剖腹探查术者应采用新一代 CT、MRI 等检查,以明确胰腺损伤情况,ERCP 是发现主胰管损伤最可靠的方法^[11-18]。Velmahos 等^[14]和 Phelan 等^[15]指出,CT 诊断胰腺损伤灵敏度不够高,但对主胰管伤的诊断具特异性。

胰腺损伤手术方式的选择取决于有无主胰管损伤^[4,16]。无主胰管损伤(I~II级伤)时,只须引流或加修补;虽然 Pata 等^[19]对 III 级胰腺损伤尝试非手术治疗,但多数作者指出主胰管损伤(III~V 级)均应手术,并按部位选择术式;无论何种术式,均应同时行充分的腹腔引流^[4,8-9]。体尾部主胰管损伤应行远端胰切除术,既妥善止血、确切结扎主胰管,又清除了失活组织,避免坏死组织感染后继发性出血、胰瘘、假性囊肿和脓肿等并发症的发生。无脾伤或脾伤轻者可采用保脾切胰措施^[3-4,11,18],本组 8 例保脾切胰,其中 3 例结扎脾动脉,无并发症。结扎脾动脉的保脾切胰,注意保留胃短动脉。胰头颈部的主胰管损伤(IV~V 级),行远端胰与空肠的 Roux-en-Y 吻合,胰头端主胰管结扎并妥善缝闭和大网膜覆盖。本组 4 例远端胰空肠端套入,未置支撑,采用彭淑牖和何小伟^[6]推荐的捆绑式吻合,无胰瘘发生。胰十二指肠联合伤时,实施 Whipple 手术病死率高达 31%~36%,除非胰头和十二指肠降段失活被迫采用此术式,即使壶腹部破裂仍宜采取多处修补加胰管、胆管和十二指肠腔内外充分引流^[7]。本组 6 例中,4 例分别采用修复胰头和十二指肠加多处引流(壶腹伤置支撑管经十二指肠引流,十二指肠减压引流、胆道“T”管引流和胰床充分引流);仅 2 例行 Whipple 手术,6 例患者均存活。濒死患者可采用 DCS 术,指征主要为患者出现“致死三联征”(凝血障碍、低温、酸中毒)^[10],本组中 4 例初期手术均为填塞和结扎止血,同时充分腹腔引流,ICU 复苏成功的 2 例,48~72 h 间行保脾远端胰切除术,顺利康复。Seamon 等^[8]指出,在严重胰腺损伤实施 DCS 术时,不加引流的填塞会增加病死率,应避免。

本组统计显示,无论穿透伤和钝性伤均大多合并腹内其他脏器伤,而钝性伤比穿透伤更易合并腹以外部位多发伤。单一胰腺损伤甚少引起患者死亡,合并血管和实质脏器伤大出血、多发伤是主要死亡原因,其次为术后并发症^[11,13,20]。本组死于合并伤 8 例,并发症 1 例。因此,首先控制合并伤大出血是提高患者生存率的关键。另外,肾脏损伤 15 例中累及左肾 12 例,说明胰腺损伤时易累及左肾,术中应仔细探查。本组有 28 例(38.89%)合并心肌挫伤,方向盘损伤时更须特别警惕,并做相应的检查,如心肌酶谱、肌钙蛋白和超声心动图,经食管超声心动图(TEE)可提高诊断灵敏度。

本组并发症发生率 28.13%,与文献报告相近^[14]。并发症治疗常需联合使用介入、内镜和手术治疗^[9]。与胰腺损伤直接相关的并发症主要为出血、胰瘘、胰腺假性囊肿、胰腺脓肿、创伤性胰腺炎、胰腺内外分泌功能障碍等。最危急者为出血,可为继续出血和继发性出血,前者多因手术不当、止血不善,术后立即出现;后者原因有化学性和感染性,即胰液腐蚀性出血和胰腺损伤组织坏死感染后出血,多在手术 2 d 后出现。胰瘘在主胰管损伤时发生率增高,故应妥善结扎或内外引流,引流物至少保留 1~2 周;术后抑分泌治疗,包括禁食,引出胃液和使用注射用生长抑素,可减少胰瘘发生或促进愈合。假性囊肿除迅速增大者急诊外引流,一般先行非手术治疗。超声引导下穿刺置管引流、ERCP 下鼻胰管引流、腹腔镜下置管引流等方法,

都是近年来日渐用于临床的有效非手术治疗技术。作者不赞成用胃镜经胃后壁开窗,此法非但引流不畅,反而会增加囊肿感染概率。通常保守治疗 2 个月无效再引流,此时囊壁增厚利于吻合。胰腺脓肿应及时再手术引流,拖延将导致继发性出血、胃肠瘘和全身炎症反应综合征等更严重的并发症。为避免胰功能障碍,胰切除量不超过 80.0%,否则选择远端胰与空肠的 Roux-en-Y 吻合。漏诊再手术和术式不当使并发症发生率大增,甚至导致不应有的死亡^[1,2,4,20]。本组 1 例手术主胰管损伤却只做了修补和引流,未行远端胰切除,术后出现胰瘘和胰腺脓肿,继发大出血和肠瘘,患者死于全身炎症反应综合征,实为深刻教训。

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