

doi: 10.13241/j.cnki.pmb.2017.16.021

损伤控制在促进急诊外科多发伤患者恢复中的价值分析

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摘要 目的:探讨分析损伤控制在促进急诊外科多发伤患者恢复中的价值。**方法:**随机选择 2014 年 6 月-2016 年 6 月入住我院治疗的多发伤患者 60 例,并随机分成治疗组和对照组,每组 30 例患者。治疗组采取损伤控制的疗法,对照组采取一期确定治疗手术的方法,对比分析两组患者治疗前后最高体温、乳酸清除时间、凝血功能改善状况(以 PT 和 APTT 恢复正常时间为标准)、血液碱剩余(BE)恢复时间、手术出血量、并发症的发生情况及死亡率。**结果:**相较于对照组患者,治疗组患者手术时间、术中出血量、术后最高体温、乳酸清除时间、PT、APTT 和 BE 恢复正常时间均明显降低或缩短,差异均有统计学意义($P<0.05$),但两组患者并发症率及患者死亡率差异无统计学意义($P>0.05$)。**结论:**相较于传统的方法,采用损伤控制外科技术应用于急诊外科多发伤可促进患者恢复,具有一定的应用价值。

关键词:损伤控制;急诊外科;多发伤;临床价值

中图分类号:R64 **文献标识码:**A **文章编号:**1673-6273(2017)16-3083-03

Value of Damage Control in the Recovery of patients with Multiple Traumas in Emergency Surgery

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ABSTRACT Objective: To analysis the value of Damage Control in the recovery of multiple traumas in the emergency surgery.

Methods: From June 2014 to June 2016, 60 cases of patients with multiple injury admitted in our hospital were were selected and randomly divided into the treatment group and control group with 30 cases in each group, the treatment group was given therapy of damage control, the control group was given the issue of determining method for the treatment of surgery. By surgical treatment, the effect, tinnitus loudness, highest temperature, lactic acid removal time, blood coagulation function improvement status (on the basis of PT and APTT returned to normal time), blood alkali surplus (BE) recovery time, intraoperative blood loss, incidence of complication and mortality rate were compared between two groups before and after treatment. **Results:** Compared with the control group, the operation time, intraoperative blood loss, highest temperature, lactic acid removal time, blood coagulation function improvement status (on the basis of PT and APTT returned to normal time) residual (BE), blood alkali recovery time, intraoperative blood loss were obviously lower or shorter ($P<0.05$), no significant difference was observed in the complication rate and mortality between two groups ($P>0.05$).

Conclusion: Damage control surgery technique could promote the recovery of patients with multiple traumas.

Key words: Damage Control; Emergency Surgery; Multiple Injury; Clinical value

Chinese Library Classification(CLC): R64 **Document code:** A

Article ID: 1673-6273(2017)16-3083-03

前言

多发伤是指在一个创伤的作用下,身体有两个或两个以上的组织或器官受到创伤,其中每一个部位的创伤均可致患者死亡^[1-3]。多发伤的致病原因通常是交通事故、爆炸、高空摔落的强撞击等,其临床特点主要是:① 伤情变化快、死亡率高;② 伤情严重、休克率高;③ 伤情复杂、容易漏诊;④ 伤情复杂、处理矛盾;⑤ 抵抗力低、容易感染^[4,5]。损伤控制(DC)手术是一种针对严重创伤患者的救治方法,以往针对所有患者均于早期进行复杂而完整的手术,而损伤控制技术操作快捷而简单,既能够控制病

情,又可使患者获得复苏时间,为完整、合理的再次手术或分期手术提供机会^[6-8]。本研究主要通过损伤控制外科手术与传统一期确定性手术进行对比,观察损伤性外科手术在多发伤救治中的应用,探讨了损伤控制在急诊外科多发伤救治中的临床价值,现报道如下。

1 资料与方法

1.1 临床资料

收集我院创伤中心自 2014 年 6 月-2016 年 6 月共收治多发伤患者 60 例,根据其临床病史特点,选取 30 名患者作为治

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(收稿日期:2016-10-31 接受日期:2016-11-26)

疗组接受损伤控制方法治疗,男患者 16 例,女患者 14 例,经过统计平均年龄(37.6 ± 13.2)岁;严重颅脑创伤 10 例,严重胸部创伤 4 例,严重腹部创伤 6 例,四肢创伤 6 例,肢体血管创伤 4 例,经过统计损伤部位共计 52 处;同时选取 30 名患者作为对照组接受传统一期确定性手术治疗,男患者 17 例,女患者 13 例,平均年龄(34.3 ± 11.1)岁;严重颅脑创伤 9 例,严重胸部创伤

5 例,严重腹部创伤 6 例,四肢创伤 7 例,肢体血管创伤 3 例,经统计损伤部位共计 50 处,见表 1。患者纳入标准:① 创伤至入院时间在 1h 以内;② 既往身体健康;③ 创伤前两周,未用过抗凝及溶栓类药物。排除标准:① 有患者之前有组织及器官疾病患者;② 排除有严重颅脑损伤患者(GCS<12 分)。

表 1 两组患者一般临床资料比较
Table 1 Comparison of the general clinical data between two groups of patients

Groups	Age(y)	Gender		Injury site					Total
		Male	Female	I	II	III	IV	V	
Treatment group (n=30)	37.6± 13.2	16	14	10	4	6	6	4	52
Control group (n=30)	34.3± 11.1	17	13	9	5	6	7	3	50
P		P=0.056		P=0.084		P=0.804			

Note: I means serious craniocerebral injuries; II means serious chest injuries; III means serious abdomen injuries; IV means limb injuries; V means extremity vascular injuries.

1.2 诊断标准

诊断标准: ① 两个以上解剖部位同时或相继发生创伤;② 各个创伤即使单独存在,也不能被视为轻微创伤,而是具有一定临床重要性的较严重创伤,亦即单个创伤就可能对生命构成威胁或导致残废;③ 各个创伤均为同一致伤因素所造成。

1.3 方法

1.3.1 治疗组 采取损伤控制策略,损伤控制以止血,液体复苏及控制污染为原则。所有患者于院前即将伤口包扎,填塞或以止血带止血。入院后按照先处理后诊断、边处理边诊断、可迅速致死而又可逆转的严重情况先处理的原则对患者紧急处理,相关科室专家进行会诊,做好术前准备。同时建立患者生命支持系统,及时监测血压、脉搏、呼吸、心电图等生理指标。损伤控制时间在 120 min 以内,然后送 ICU 病房,待生命体征稳定后依据具体病情转入各科室病房,72 h 内进行后续治疗。

一期手术具体操作如下:① 对于严重颅脑损伤患者,如果形成脑疝、血肿等情况,应及时钻孔,降低颅腔压力;② 严重胸部创伤患者,应该迅速找到创口、及时止血;③ 严重腹部创伤迅速修复主干血管创伤,止血、对于肝、胆等器官查找裂口,采取措施,使创口短暂闭合;④ 四肢创伤主要以骨折为主,应及时固定,减少疼痛,对于脊柱的处理方法是做一个简单的椎板减压术,降低脊柱承担的压力;⑤ 对于肢体血管,应迅速找到破裂血管,及时止血,防止失血过多,患者死亡。

1.3.2 对照组 患者入院后随即明确诊断,并做好各项术前准备,急诊手术治疗,纠正所有因外伤造成的解剖结构变化,应根

据各部位创伤对生命威胁的程度决定手术的顺序:① 颅脑创伤需手术处理,并伴有胸腹内脏伤患者,应分组同时进行;② 胸腹联合伤,可同台分组进行剖胸剖腹手术;③ 有四肢开放性骨折时,应在上述手术完成时及时进行清创术,外固定术。对闭合性骨折可择期处理。

1.4 评价指标

观察两组患者术后体温、乳酸消除时间、凝血功能改善状况(以 PT 和 APTT 恢复正常时间为标准)、血液碱剩余(BE)恢复时间、手术出血量、并发症及患者死亡等情况。

1.5 统计学方法

采用 SPSS20.0,计量资料用($\bar{x} \pm s$)表示,采用 t 检验,计数资料比较采用 检验,以 $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 两组手术指标的比较

治疗组手术时间、手术出血量分别为 146.9 ± 19.2 min、 1933.4 ± 9.4 mL;而对照组手术时间、手术出血量分别为 255.2 ± 97.6 min、 2701.5 ± 77.0 mL。术后,治疗组患者出现 7 例并发症,其中 4 例治疗无效死亡;对照组患者出现 16 例并发症,其中 7 例患者治疗无效死亡,见表 2。治疗组手术时间较对照组显著缩短,患者术中出血量明显减少,差异有统计学意义($P < 0.05$),两组患者的并发症率、死亡率比较差异无统计学意义($P > 0.05$)。

表 2 两组患者手术指标比较
Table 2 Comparison of the operation indicators between two groups of patients

Groups	Operation time(min)	Blood loss(mL)	Complications(n)	Death(n)
Treatment group(n=30)	146.9± 19.2	1933.4± 9.4	14	4
Control group(n=30)	255.2± 97.6	2701.5± 77.0	16	7
P	P=0.00	P=0.028	P=0.067	P=0.631

2.2 两组术后指标的比较

治疗组术后最高温度、乳酸消除时间、PT、APTT 恢复时间、BE 恢复时间分别是 $36.7 \pm 0.2^{\circ}\text{C}$ 、 $11.1 \pm 2.6\text{ h}$ 、 $12.2 \pm 4.4\text{ h}$ 、 $13.0 \pm 1.7\text{ h}$ ；对照组术后最高温度、乳酸消除时间、PT、APTT 恢

复时间、BE 恢复时间分别是 $37.1 \pm 0.2^{\circ}\text{C}$ 、 $31.2 \pm 3.8\text{ h}$ 、 $33.1 \pm 5.1\text{ h}$ 、 $30.0 \pm 2.0\text{ h}$ ，通过对比治疗组术后的恢复效果明显优于对照组($P < 0.05$)，见表 3。

表 3 两组患者术后观察指标比较($\bar{x} \pm s$)

Table 3 Comparison of the postoperative indicators between two groups of patients($\bar{x} \pm s$)

Groups	Maximum body temperature after operation($^{\circ}\text{C}$)	Lactic acid eliminated time(h)	PT, APTT recovery time (h)	BE recovery time(h)
Treatment group(n=30)	36.7 ± 0.2	11.1 ± 2.6	12.2 ± 4.4	13.0 ± 1.7
Control group(n=30)	37.1 ± 0.2	31.2 ± 3.8	33.1 ± 5.1	30.0 ± 2.0
P	P=0.00	P=0.042	P=0.00	P=0.026

3 讨论

多发伤以交通伤、高处坠落伤、厂矿事故伤等损伤为主，伤情具有严重而复杂的特性，伤情变化快，早期死亡率、伤后的并发症和感染率偏高^[9]。此时，进行长时间或过分的手术对患者而言后果是严重的，有可能患者造成术中或术后迅速死亡。因此，在合适的时候进行合理的手术尤为重要^[10,11]。

损伤控制是目前创伤外科推荐使用的一项新的治疗方法，强调在救治严重创伤、大量失血而无法耐受手术的患者时，先对患者做简单手术，然后进行复苏治疗，待患者各项生理机能恢复，多发伤患者身体内部机能紊乱，需要待患者全身情况改善后，确定患者的手术方式，有利于降低患者的死亡率^[12-14]。损伤控制处理原则分为三个阶段：第一阶段为初始简化阶段(OR)，主要控制患者的出血患处、控制空脏器外部污染、暂时关闭腹腔；第二阶段是复苏治疗(SICU)，此阶段主要是恢复患者的体温，纠正患者凝血功能紊乱、维持患者血流系统稳定、对患者提供呼吸支持，纠正患者的酸中毒和患者生理机能代谢紊乱、查询患者隐匿伤情；第三阶段是确定性修复重建手术，修复损伤的脏器及解剖的连续性，确定性手术应在首次手术后 36-72 h 进行为宜^[15-18]。

本研究结果显示：DC 治疗组患者在术后体温、乳酸消除时间、凝血功能改善状况、手术消耗时间、手术出血量、DIC 的发生率均显著低于常规治疗组，而两组患者并发症发生率及死亡率差异不显著。潘光华^[19]等在急诊外科多发伤救治中使用损伤控制外科技术，该研究结果显示，观察组患者乳酸恢复时间、体温恢复时间、手术时间、出血量等指标均明显优于对照组，与本研究结果相似。孔金水^[20]等认为，损伤控制在维持血压与尿量、纠正代谢的同时注重调节凝血机制异常，纠正代谢性酸中毒，调节机体内环境，促进酸碱平衡，因此 DIC 发生率显著下降。上述结果表明，相较于传统方法，采用损伤控制外科技术应用于急诊外科多发伤可促进患者恢复，具有一定的应用价值。

综上所述，损伤控制外科技术应用于急诊外科多发伤患者救治的临床价值明显优于传统方法。

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(上接第 3085 页)

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