

重型颅脑外伤致脑疝患者的临床救治体会

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摘要 目的 探讨重型颅脑外伤致脑疝的临床救治方法并总结救治体会,以提高重型颅脑外伤致脑疝患者的临床救治水平,提高其生存率。方法 回顾性分析2006年1月~2011年12月收治的220例重型颅脑外伤致脑疝患者的临床资料,探讨综合性救治措施对重型颅脑外伤致脑疝患者的临床意义。结果 根据格拉斯哥预后评分(GOS)评价全组预后:45例恢复良好(20.5%),34例中残(15.5%),41例重残(18.6%),25例植物生存(11.4%),75例死亡(34.1%),其中7例术中死亡,28例术后死于感染、消化道出血及多器官功能衰竭等严重并发症,40例死于脑损伤及继发脑功能严重衰竭。结论 颅脑外伤致脑疝患者致死率高,预后差,采取术前、术中、术后的综合救治措施,可显著提高患者生存率及改善预后。

关键词 重型颅脑外伤 脑疝 综合救治措施 术前干预 序贯式减压

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Clinical Treatment Experience of the Severe Craniocerebral Injury Associated with Cerebral Hernia

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ABSTRACT Objective: To investigate the clinical treatment method of the severe craniocerebral injury with cerebral hernia in order to improve the clinical therapeutic effect and increase the survival rate. **Methods:** 220 patients with cerebral hernia caused by severe craniocerebral trauma, admitted from January 2006 to December 2011 were retrospectively studied to analyze the important significance of comprehensive treatment on the severe craniocerebral injury associated with cerebral hernia. **Results:** Treatment outcomes were assessed according to GOS, there were 45 cases (20.5 %) of good recovery, 34 cases (15.5 %) of moderate disability, 41 cases (18.6 %) of severe disability, 25 cases (11.4 %) of plant survival, 75 patients (34.1 %) died. The intraoperative death happened in 7 cases, 28 cases died of postoperative infection, gastrointestinal hemorrhage and multiple organ failure and other serious complications, 40 cases died of brain injury and secondary brain function in severe failure. **Conclusions:** The patients with cerebral hernia caused by craniocerebral trauma, often have the high fatality rate, and the poor prognosis. Taking the preoperative, intraoperative, postoperative comprehensive treatment measures, can significantly improve the survival rate and improve the prognosis of the patients.

Key words: Severe craniocerebral trauma; Cerebral herniation; Comprehensive treatment measures; Preoperative intervention; Sequential decompression

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前言

重型颅脑外伤所致的脑疝一直是颅脑外伤患者的重要死亡因素,该病病情危重、进展迅猛,病死率和致残率相当高,其中颅脑外伤致双瞳孔散大是晚期脑疝常用的标志体征,患者的预后与脑疝持续的时间密切相关。在临床工作中,该类型患者的救治甚为困难,且预后极差。据相关文献报道,脑疝晚期双侧瞳孔散大患者的死亡率达60%~90%。我科室自2006年1月~2011年12月共收治外伤性颅脑损伤致脑疝的病人220例,在如何提高该类型患者的救治成功率以及改善预后等方面,积累了丰富的临床救治经验与教训。本文对相关临床资料,包括临床特征、急救、手术治疗、术后治疗及患者预后等方面进

行了分析总结,现报告如下。

1 材料与方法

1.1 一般材料

本组男150例,女70例;年龄<20岁40例,20~40岁55例,>40岁125例;致伤原因:交通事故伤130例,坠落伤25例,钝器打击伤42例,跌倒伤23例。受伤至入院时间<2h者173例,2~6h者47例;入院时格拉斯哥昏迷评分(GCS)3~5分57例,6~8分153例;单侧瞳孔散大160例,双侧瞳孔散大60例;入院时头颅CT提示脑损伤类型:硬膜外血肿76例,硬膜下血肿55例,脑挫裂伤合并脑内血肿67例,颅内多发血肿20例,弥漫性轴索损伤合并颅内血肿12例。

1.2 治疗方法

本组患者共220例,入院后观察意识状态,瞳孔散大情况,立即给予脱水降颅压(方法为静脉推注20%甘露醇),根据有无自主呼吸,有心跳者,保证呼吸道通畅,立刻经气管插管后,查

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头颅CT,结合病史及扫描结果以确诊。在最短时间内完成各项术前准备,本组患者全部急诊行开颅手术治疗,术式采用单侧或双侧开颅血肿清除+去大骨瓣减压术(直径>6 cm或跨2个以上颅骨),及单纯硬膜外血肿清除后保留骨瓣,脑组织膨出严重者,局部行内减压术或行早期异体皮减张缝合序贯式减压术。术后根据患者情况,行气管切开术,送重症监护室并严密监视患者意识、瞳孔及生命体征变化,予以心电监护,监测血氧饱和度,控制氧饱和度在95%以上,呼吸机辅助呼吸,同时给予脱水降低颅内压、抗休克、预防感染及应激性溃疡,纠正水电解质紊乱及酸碱失衡,根据患者有无术后高热,早期给予亚低温脑保护,积极防治坠积性肺炎、褥疮。

2 结果

本组220例患者,存活145例,存活率65.9%。根据格拉斯哥预后评分(GOS)评价全组预后:恢复良好45例(占20.5%),中残34例(占15.5%),重残41例(占18.6%),植物生存25例(占11.4%),死亡75例(占34.1%),其中7例术中死亡,28例术后死于感染、消化道出血及多器官功能衰竭等严重并发症,40例死于脑损伤及继发性脑功能严重衰竭。双侧瞳孔散大<2h者173例,存活145例,恢复良好45例(31.1%),中残34例(占23.4%),重残41例(占28.3%),植物生存25例(占17.2%)。双侧瞳孔散大2~6h者47例,恢复良好0例,中残0例,重残0例,死亡47例(占100%)。

3 讨论

重型颅脑外伤致脑疝患者病情危重,发展快,变化大,需紧急处理。在抢救颅脑外伤致脑疝患者的治疗中,及时手术治疗起着关键作用,而早期观察、早期诊断、早期救治,不仅可为手术救治成功创造良好基础,大大降低患者死亡率,并且可明显改善患者的预后。在伤后至入院前这段时间,要求急救医务人员及时通过观察伤者的意识变化情况、瞳孔变化情况、生命体征及颅内压增高的典型临床表现,对患者进行预判,当患者意识出现烦躁不安后转入嗜睡、清醒患者逐渐嗜睡或朦胧,继而转入半昏迷或深昏迷状态、意识障碍进行性加重,由昏迷转清醒再转昏迷等情况,血压进行性升高,尤其是收缩压升高,脉压差增大,脉搏缓慢而洪大,呼吸深慢伴鼾声,两侧瞳孔不等大、缩小或散大,对光反射迟钝或消失,出现头痛加剧、呕吐、烦躁不安及视神经乳头水肿等颅内压增高的等临床表现,均可提示脑疝前期,必须采取相应有效措施,以减缓病情的进展。

颅脑外伤后颅内压升高、颅内各部分压力梯度的发生发展是形成脑疝的主要原因,抢救的关键在于紧急解除颅内高压、脑干受压及改善脑组织缺血缺氧,在维持血压的情况下,强力进行脱水治疗以降低颅内压,可使脑疝减轻或瞳孔有所回缩。为争取手术治疗时间,以改善患者预后,常给予20%甘露醇250ml,20min内滴完,必要时可与利尿和地塞米松联合应用。术前紧急建立有效通气及循环通道,保持呼吸道通畅,及时清除口鼻分泌物,给予高流量氧气吸入,并进行血氧饱和度监测,当血氧饱和度降低时,加压给氧,有呼吸循环障碍者果断行气管插管或气管切开后插管,同时积极纠正休克,可明显减轻由低血压、低血氧及高碳酸血症造成的继发性脑组织损害。在救

治的"黄金时间段"段即伤后1小时内,采取有效的术前干预,可避免病情进一步恶化。

据相关文献报道,伤后距手术干预时间越长则预后越差,重型、特重型颅脑外伤致脑疝的速度和持续时间是决定预后的关键因素,脑疝持续90min是接近意识不可逆时限,而持续3h是接近呼吸功能不可逆时限,单侧瞳孔散大者及时行颅内血肿清除及去骨瓣减压可取得较好效果,双侧瞳孔散大患者抢救的最佳时机应是50min以内,超过2h者手术效果往往不理想。及时有效的手术治疗,清除颅内血肿和挫碎脑组织以解除颅内高压是抢救患者最行之有效的措施。本组220例患者均急诊行单侧或双侧开颅血肿清除+去大骨瓣减压术,及单纯硬膜外血肿清除后保留骨瓣,根据CT表象,对部分患者紧急采取颞肌下钻孔减压术,以有效缓解颅内高压,为手术成功及患者预后创造条件。手术中彻底清除血肿及坏死脑组织,脑组织膨出严重且挫伤严重者,局部行内减压术,对脑组织张力极高,膨出严重,头皮无法行一期缝合的患者,给予早期异体皮减张缝合,序贯式减压手术,对患者的术后生存率及预后取得了良好的效果,但该类患者颅内感染发生率较高,对手术的无菌操作及异体皮材料的要求较高。

颅脑外伤致脑疝患者术后继发性脑损害和脑水肿是较为多见的病理生理改变,近年来,人们越来越重视其对继发性脑损害及脑水肿的治疗作用。据报道,大剂量的地塞米松可明显减轻脑水肿,降低颅内压,增加脑灌注压。同时,对该类患者术后早期给予亚低温脑保护治疗,不但可以有效地降低死亡率,且病人无严重的并发症发生。外伤后脑血管直接损伤、血肿压迫、脑水肿、外伤性蛛网膜下腔出血以及脱水和休克等均可引起低血压和脑灌注压降低,容易导致脑组织缺血。给予钙拮抗剂如尼莫地平及低分子右旋糖酐,可防止脑血管痉挛和改善脑部循环。对低氧血症及呼吸困难者可尽早使用呼吸机及静脉输注高氧液,同时加强预防肺部感染。近年来,颅脑外伤术后高血糖、高热及应激性溃疡等现象愈来愈受到人们的重视,伤情愈重,该类现象出现几率越大,加重其他脏器功能的损害,大大增加了颅脑外伤的致死、残率,及时有效的对重型、特重型颅脑外伤致脑疝患者施以术前干预、手术及术后有效的综合治疗,至关重要。

参考文献(References)

- [1] Manley GT. Introduction: decompressive craniectomy for trauma and cerebrovascular disease[J]. Neurosurg Focus, 2009,26(6):1
- [2] Lü LQ, Jiang JY, Yu MK, et al. Standard large trauma craniotomy for severe traumatic brain injury[J]. Chin J Traumatol, 2003,6(5):302-304
- [3] Giroto D, Ledić D, Bajek G, et al. Efficacy of decompressive craniectomy in treatment of severe brain injury at the Rijeka University Hospital Centre[J]. Coll Antropol, 2011,35(2):255-258
- [4] 刘洛锋,郭勇军,刘华锋,等.重型颅脑损伤合并脑病晚期的治疗体会[J]. 中华神经外科疾病研究杂志,2007,6(6):557-558
Liu Luo-feng, Guo Yong-jun, Liu Hua-feng, et al. Treatment experience of severe traumatic brain injury combined with late-stage cerebral herniation [J]. Chinese Journal of Neurosurgical Disease Research, 2007,6(6):557-558
- [5] 刘敬业,张赛,只达石,等.2712例急性颅脑损伤分析[J].中华神经外

- 科杂志,1999,15(1):20
- Liu Jing-ye, Zhang Sai, Zhi Da-shi, et al. Analysis of 2712 cases of the acute craniocerebral injury [J]. Chinese Journal of Neurosurgery, 1999, 15(1):20
- [6] Stiver SI, Gean AD, Manley GT. Survival with good outcome after cerebral herniation and Duret hemorrhage caused by traumatic brain injury[J]. J Neurosurg, 2009,110(6):1242-1246
- [7] 刘明铎,刘承基,主编.实用颅脑损伤学[M].第2版.北京:人民军医出版社,1994:240-243
- Liu Ming-duo, Liu Cheng-ji. Utility study of head injury [M]. Second Edition. Beijing: People's Military Medical Press, 1994:240-243
- [8] 江基尧.国外亚低温与颅脑伤研究现状[J].国外医学·神经病学神经外科分册,1993,20(1):4
- Jiang Ji-yao. Foreign research status of mild hypothermia and brain injury[J]. Foreign Medical Sciences (Section On Neurology & Neurosurgery), 1993,20(1):4
- [9] 肖正华,孙永峰,刘冬发.重型颅脑损伤并发急性脑疝 128 例救治体会[J].人民军医,2006,49(5):277-278
- Xiao Zheng-hua, Sun Yong-feng, Liu Dong-fa. Treatment experience of 128 cases of the severe head injury complicated with acute cerebral hernia[J]. People's Military Surgeon, 2006,49(5):277-278
- [10] 郑斌,全伟.重型颅脑损伤合并脑疝的救治与预后分析[J].中华神经医学杂志,2006,5(7):742-743
- Zheng Bin, Quan Wei. Treatment and prognosis of severe craniocerebral injury complicated by cerebral hernia[J]. Chinese Journal of Neuro-medicine, 2006,5(7):742-743
- [11] 唐路弘.外伤性脑出血并脑疝晚期救治体会 [J]. 临床误诊误治, 2005,9(9):624
- Tang Lu-hong. Treatment experience of traumatic cerebral hemorrhage associated with brain herniation [J]. Clinical Misdiagnosis & Mistherapy, 2005,9(9):624
- [12] 陈金良,龚江标.标准外伤大骨瓣开颅术救治重型颅脑损伤合并脑疝[J].浙江创伤外科,2011,2(1):11-12
- Chen Jin-liang, Gong Jiang-biao. Standard large trauma craniotomy for treatment of severe traumatic brain injury with brain herniation [J]. Zhejiang Journal of Traumatic Surgery, 2011,2(1):11-12
- [13] 汪敏,许国根.106 例重型颅脑损伤患者并发脑疝的院前救治[J].浙江实用医学,2011,4(2):101-102
- Wang Min, Xu Guo-gen. Prehospital treatment of 106 cases of severe craniocerebral injury complicated with brain hernia [J]. Zhejiang Practical Medicine, 2011,4(2):101-102
- [14] 江基尧,张玉琪,刘佰运,等.颅脑创伤现场急救与并发症处理及康复治疗[J].中华神经外科杂志,2008,24(6):405-407
- Jiang Ji-yao, Zhang Yu-qi, Liu Bai-yun, et al. First aid and treatment of complications and rehabilitation therapy of craniocerebral trauma [J]. Chinese Journal of Neurosurgery, 2008,24(6):405-407
- [15] 梁玉敏,高国一,江基尧,等.去骨瓣减压术治疗重型颅脑创伤的临床应用进展[J].中华创伤杂志,2010,26(1):83-86
- Liang Yu-min, Gao Guo-yi, Jiang Ji-yao, et al. Clinical application of decompressive craniectomy in treatment of severe traumatic brain injuries [J]. Chinese Journal of Traumatology, 2010,26(1):83-86
- [16] 李树志,张鹏,王美香,等.颅脑创伤所致脑中心疝的提前干预治疗[J].中华神经外科杂志,2009,25(8):738-740
- Li Shu-zhi, Zhang Peng, Wang Mei-xiang, et al. Early intervention treatment of craniocerebral trauma complicated with brain central hernia [J]. Chinese Journal of Neurosurgery, 2009,25(8):738-740
- [17] 李慧,徐利忠,张伟东,等.大骨瓣开颅治疗重型颅脑创伤 46 例体会[J].中华神经外科杂志,2011,27(9):867
- Li Hui, Xu Li-zhong, Zhang Wei-dong, et al. Experience of big bone flap craniotomy in treatment of severe craniocerebral trauma in 46 cases [J]. Chinese Journal of Neurosurgery, 2011,27(9):867
- [18] 郭徐华,陈光烈,陈炜毅,等.双侧开颅治疗重型颅脑创伤 55 例疗效观察[J].中国全科医学,2011,14(15):1715-1716
- Guo Xu-hua, Chen Guang-lie, Chen Wei-yi, et al. Effects of Bilateral Craniotomy in Treatment of Severe Brain Injury: Report of 55 Cases [J]. Chinese General Practice, 2011,14(15):1715-1716
- [19] 杨树源.如何评价大骨瓣减压术治疗颅脑创伤的疗效[J].中华创伤杂志,2011,27(3):197-200
- Yang Shu-yuan. Efficacy evaluation of hemicraniectomy in treatment of traumatic brain injury [J]. Chinese Journal of Traumatology, 2011,27(3):197-200
- [20] 罗慈伟,卓蕴雄.微创术用于颅内血肿并发脑疝开颅术前的急救意义[J].中华神经医学杂志,2007,6(1):81-82
- Luo Ci-wei, Zhuo Yun-xiong. Significance of minimally invasive operation before craniotomy for the patients of intracranial hematoma with herniation [J]. Chinese Journal of Neuromedicine, 2007,6(1):81-82
- [21] 孔德华.开颅术前钻孔引流治疗颅内血肿伴脑疝形成患者的疗效分析[J].健康必读(中旬刊),2012,11(5):236-236
- Kong De-hua. Curative effect analysis of trepanation and drainage in the treatment of intracranial hematoma accompanied by cerebral herniation before craniotomy [J]. Healthmust-Readmagazine, 2012,11(5):236-236