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◇临床医学◇



血肿腔穿刺引流结合去骨瓣减压治疗基底节区脑出血7例

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摘要: **目的** 评价血肿腔穿刺引流结合去骨瓣减压对基底节区脑出血手术疗效及安全性。**方法** 回顾性研究2017年7—12月在云南迪庆藏族自治州人民医院,对7例高血压基底节区大量脑出血重症病人施行血肿腔穿刺引流结合去骨瓣减压手术,术后评估病人CT影像中线移位改善程度,意识水平格拉斯哥昏迷指数(GCS)恢复程度,术后病人生存质量,记录手术进行时间以及手术出血量,手术前后资料采用配对资料非参数检验。**结果** 该7例病人经过本手术后,术前GCS评分为 (4.85 ± 1.06) 分,术后1周后改善为 (10.85 ± 1.21) 分($P=0.017$);术前中线移位为 (11.28 ± 1.79) mm,术后次日恢复为 (4.85 ± 1.06) mm($P=0.014$);术后3个月GOS评分均大于3分;手术进行时间小于2 h;手术出血量均小于200 mL。**结论** 对基底节区脑出血病人行血肿腔穿刺结合去骨瓣减压术可有效缓解脑组织移位,改善意识障碍,同时又可减少手术创伤缩短手术时间。

关键词: 脑血管基底神经节出血; 颅内出血,高血压性; 减压颅骨切除术; 穿刺抽液术

Puncture and drainage of hematoma cavity combined with bone flap decompression in the treatment of 7 cases of basal ganglia intracerebral hemorrhage

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Abstract: **Objective** To evaluate the efficacy and safety of hematoma puncture and drainage combined with decompression of bone flap for basal ganglia intracerebral hemorrhage. **Methods** The retrospective study was conducted in the People's Hospital of Diqing Tibetan Autonomous Prefecture, Yunnan Province from July to December 2017, seven patients with severe intracerebral hemorrhage in the basal ganglia region of hypertension were treated with hematoma puncture and drainage combined with decompressive surgery to remove bone flap. The improvement degree of line shift in the brain of CT images, the recovery degree of consciousness level GCS, the postoperative quality of life of the patients were evaluated. The average duration of surgery and the average amount of surgical bleeding were recorded. The data before and after operation were analyzed by paired data nonparametric test. **Result** After the operation, the mean preoperative GCS score of the 7 patients was (4.85 ± 1.06) , and it was improved to (10.85 ± 1.21) one week after the operation($P=0.017$). The median preoperative midline shift was (11.28 ± 1.79) mm, and it was recover to (4.85 ± 1.06) mm the next day after surgery($P=0.014$). 3 months after surgery, the GOS scores were all greater than 3 points. Operation time was less than 2 hours. The operative blood loss was less than 200 mL. **Conclusions** For patients with basal ganglia intracerebral hemorrhage, hematoma cavity puncture combined with bone flap decompression can effectively alleviate the brain tissue displacement, improve the disturbance of consciousness, and reduce the surgical trauma and shorten the operation time.

Key words: Basal ganglia hemorrhage; Intracranial hemorrhage, hypertensive; Decompressive craniectomy; Paracentesis

基底节脑出血为常见的脑内出血形式,出血量大往往病情严重,引发昏迷脑疝,危及病人生命。基底节脑出血最常见的原因是高血压性脑出血^[1],约占所有出血原因的80%以上^[2],其他少见原因包含颅内血管瘤性出血、血管畸形、烟雾病、脑血管淀粉样变性出血、颅脑外伤等^[3]。目前治疗基底节脑出血包括保守治疗和手术治疗。对于大量基底节出血治疗方式主要为手术治疗^[4],主要手术方式有开颅去骨瓣脑内血肿清除术,经颅骨钻孔血肿穿刺引流术以及近年来快速发展的神经内镜手术治疗脑出血^[5-6]。本研

究通过血肿腔穿刺引流结合去骨瓣减压治疗基底节大量脑出血,取得良好效果,现报告如下。

1 资料与方法

1.1 一般资料 笔者于2017年7—12月在云南迪庆州人民医院神经外科援建期间手术治疗的大量基底节脑出血病例7例。病例特征:(1)病人均存在意识障碍,格拉斯哥昏迷指数(GCS)评分 <8 分;(2)均为基底节区出血,出血量 >30 mL;(3)中线结构有明显移位 >0.8 cm或出血侧脑室受压消失移位或环池结构受压,脑疝或脑疝濒临状态;(4)出血原因均

为高血压,并排除颅内血管瘤,血管畸形等出血原因;(5)病人或其近亲属知情同意,本研究符合《世界医学协会赫尔辛基宣言》相关要求。其中男4例,女3例,年龄范围48~76岁,其中术前GCS评分3~5分5例,6~8分2例;血肿量30~45 mL为3例,>45 mL为4例。脑疝单侧瞳孔散大2例。

1.2 手术治疗方法 均行血肿腔穿刺引流结合去骨瓣减压手术治疗,采用全身吸入静脉复合麻醉后,平卧位,依照术前头颅CT及头颅骨性标示,确定CT扫描起始线、倾向度、层距,确定血肿位置,血肿最大径位置,血肿至皮层距离,确定血肿穿刺位置、穿刺深度及穿刺倾角方向。常规采用问号切口额颞瓣开颅,骨窗成形后可观察脑压普遍较高,四周悬吊硬膜。依据术前定位穿刺点,将硬膜剪开小口约0.5 cm,依据术前定位的穿刺深度及穿刺方向倾角穿刺血肿最大径。穿刺成功可见暗红色液体流出。以脑室引流软管置入血肿腔,以5 mL注射器接三通阀轻抽吸,可见暗色液体夹带部分血凝块,常规可抽吸约10~20 mL可见脑压有减低。抽吸阻力增大夹杂部分脑组织应停止抽吸,调整引流软管位置。抽吸后脑压往往有所减低,此时可间断放射样剪开硬膜,剪开同时以人工硬膜减张缝合已剪开硬膜,不主张一次性全部剪开硬膜,已防止急性脑膨出或脑压急剧变化引发再次出血。妥善经皮固定血肿腔引流软管,常规硬膜外放置负压吸引,减张缝合颞肌,缝合头皮。

1.3 术后治疗和评估 病人术后转重症监护治疗,术后次日复查头颅CT观察中线回位情况、观察血肿残余、引流管位置情况。术后残留血肿经引流管每日注入尿激酶1~2万个单位,每日一次。治疗高血压,保持血压稳定,维持气道通畅,必要时行气管切开。根据术后CT脑肿胀情况及骨窗压力调整脱水消肿治疗。记录术后次日CT中线移位距离(第三脑室中心移位距离),并与术前中线移位距离进行统计学比较。术后1周再次评估GCS评分,并术前GCS评分进行统计学比较。术后一个月评估病人生存状态,作GOS(格拉斯哥预后评分)评分并记录。

1.4 统计学方法 采用SPSS 17.0软件进行统计运算,计量资料以 $\bar{x} \pm s$ 表示,手术前后资料采用配对资料非参数检验, $P < 0.05$ 为差异有统计学意义。

2 结果

2.1 手术前后脑组织移位变化 所有病例经过血肿腔穿刺引流结合去骨瓣减压术后,术后颅内高压可立即得到缓解,濒临脑疝状态或脑疝状态得以纠正,术后次日头颅CT检查可见移位的中心结构明显回位,见表1。

2.2 手术前后病人意识变化 病人经手术及术后

表1 基底节脑出血病例7例手术前后中线结构移位对比(第三脑室移位)/mm

时间	病例1	病例2	病例3	病例4	病例5	病例6	病例7	均值/ $\bar{x} \pm s$
手术前	9	10	11	13	14	12	10	11.28±1.79
手术后	3	5	5	6	6	5	4	4.85±1.06 ^①

注:①手术前后比较, $Z = -2.39$, $P = 0.017$ 。

综合治疗后,短期内意识水平明显改善,术后1周左右GCS评分较术前有明显提高(见表2),避免术后长期的低意识水平。

表2 基底节脑出血病例7例手术前后格拉斯哥昏迷指数(GCS)评分对比/分

时间	病例1	病例2	病例3	病例4	病例5	病例6	病例7	均值/ $\bar{x} \pm s$
手术前	5	6	4	5	6	3	5	4.85±1.14
手术后	10	12	10	11	12	9	12	10.85±1.47 ^①

注:①手术前后值比较, $Z = -2.46$, $P = 0.014$ 。

所有病人均未出现再次出血或因颅内压再次增高而再次手术,避免了二次手术。手术进行的时间都在2 h内完成,手术的出血量都小于200 mL,提示了该手术方式安全性和简易可行。术后3个月评价所有病人GOS评分,3例病人达到4分残留轻度残疾,4例病人达到3分留有重度残疾但意识水平有所恢复。

3 讨论

对于非高龄病人(<75岁)病人,临床实践中常采取手术治疗方式^[7-9]。主要手术方式包括开颅血肿清除、小骨窗血肿清除术、CT定位下穿刺血肿引流术。但此各种手术治疗在临床应用中各有优缺点^[10]。其中开颅皮层切开血肿清除手术较为复杂,手术时间长,对脑组织损伤较大,术后病人生存质量差或神经功能缺损较多,围手术期并发症多,并不能明显改善病人预后^[11-12]。定位血肿穿刺手术创伤虽较小,但对于部分大量出血,中线移位明显,脑疝状态病人减压不充分,可能需要再次开颅去骨瓣减压手术^[13-14]。

对于基底节大量出血存在显著的占位效应,引起中线移位,急性压迫脑干,丘脑等颅脑重要结构,对脑组织严重损害^[15]。故对于脑出血后大量血肿存在明显占位效应要及时去骨瓣打开硬膜充分减压。同时血肿腔内存在大量血浆渗出液^[16]。渗出液顺压力梯度渗透到血肿周围加重脑组织水肿,同时渗出血清中含有的大量血浆蛋白渗透到血肿周围,水分渗透到血肿周围形成水肿。通过引流方式清除大量出血降低脑组织水肿、降低颅内压。

本手术方式在完成骨窗后,硬膜打开前即行皮层穿刺引流引流部分液化血肿组织,可立即降低颅内压

力,同时减少了析出的血浆物质,可显著减少其后续致周围脑组织肿胀效应。皮层穿刺引流轻度抽吸可清除部分液化血肿析出液,而不切开脑皮层强行清除血肿。可利用固化血肿组织压迫止血,避免术中强行清除引发再次出血。同时可最大限度减少脑组织损伤,避免术后神经功能损伤。

在脑内血肿未完全清除、脑压仍高的情况下,一次性完全硬膜减张,常导致脑压急剧变化,可导致血肿增大甚至急性脑膨出,故分次间断剪开硬膜同时以人工硬膜减张缝合,在硬膜完全减张时,与硬膜缝合同时完成,不至脑压急剧变化。本手术通过完善的去骨减压及分次硬膜减压,为后续残留血肿可能出现的肿胀预留了充分的空间,始终维持较低的颅内压力,可避免因脑压增高中线移位再加剧而再次手术^[17-18]。术后预留血肿腔引流,通过引流管注入尿激酶至血肿腔使血凝块溶解,充分引流血肿,血肿周围脑细胞间隙血浆蛋白明显减少,减轻脑组织水肿^[19]。

本研究通过临床应用的7例病人分析,穿刺引流结合充分减压术后即可颅内压明显降低,中线结构回位明显。同时手术对脑组织的低损伤综合因素使得病人术后意识水平得以较快恢复,在短期内GCS评分显著提高,可避免长期低意识水平、昏迷造成围手术期呼吸道感染、器官功能障碍等围手术期并发症,提高病人救治水平。本手术方式对基底节区脑出血病人可有效降低颅内压,缓解脑组织移位,改善意识障碍,同时又可减少手术创伤缩短手术时间。但本研究病例数过少,期待更多的病例数收集,同时与其他手术方式进行随机对照研究,进一步验证该手术方式有效性和安全性。

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