·论 著·

神经内镜手术与钻孔引流术治疗分隔型慢性硬膜下血肿的疗效

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【摘要】**目的** 比较神经内镜手术与钻孔引流术治疗分隔型慢性硬膜下血肿的疗效。**方法** 回顾性分析2014年1月至2021年12月手术治疗的92例分隔型慢性硬膜下血肿的临床资料。35例采用神经内镜手术治疗(内镜组),57例采用钻孔引流术治疗(引流组)。术后随访6个月,记录术后并发症、死亡及血肿复发情况,采用改良Rankin量表(mRS)评分评估预后。**结果** 两组术后6个月mRS评分、术后并发症发生率及病死率均无明显差异(P>0.05)。内镜组术后复发率(0)明显低于引流组(15.8%,9/57;P=0.035)。**结论** 与钻孔引流术相比,神经内镜手术治疗分隔型慢性硬膜下血肿疗效相当,但是术后复发率更低。

【关键词】分隔型慢性硬膜下血肿;神经内镜手术;钻孔引流术;疗效

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Therapeutic efficacy of neuroendoscopic surgery and burr hole drainage for segmented chronic subdural hematomas

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【**Abstract**】**Objective** To compare the therapeutic effects of neuroendoscopic surgery and burr hole drainage for patients with septated chronic subdural hematoma (sCSDH). **Methods** The clinical data of 92 patients with sCSDH treated by surgery from January 2014 to December 2021 were retrospectively analyzed. Thirty-five patients were treated with neuroendoscopic surgery (endoscopy group), and 57 patients were treated with burr hole drainage (drainage group). Postoperative follow-up was conducted for 6 months. Postoperative complications, death, and hematoma recurrence were recorded. The modified Rankin scale (mRS) score was used to evaluate the prognosis. **Results** There were no significant differences in the 6-month mRS score, postoperative complication rate and mortality rate between the two groups (P>0.05). The postoperative recurrence rate in the endoscopy group (0) was significantly lower than that (15.8%, 9/57) in the drainage group (P=0.035). **Conclusion** Compared with burr hole drainage, neuroendoscopic surgery has equivalent therapeutic efficacy for patients with sCSDH, but has a lower postoperative recurrence rate.

【**Key words**】Separated chronic subdural hematoma; Endoscopic surgery; Burr hole drainage; Efficacy

随着社会老龄化进程的加速,慢性硬膜下血肿的发病率明显升高[1,2]。目前,慢性硬膜下血肿的主要手术方式为钻孔引流术,但术后复发一直是神经外科医师面临的棘手问题。分隔型慢性硬膜下血肿腔内存在分隔,钻孔引流术很难彻底清除血肿并改变血肿的内环境,因此术后复发率较高[3]。近年来,随着神经内镜技术的发展,该技术逐渐被用于治疗慢性硬膜下血肿[4]。本文探讨神经内镜手术治疗分隔型慢性硬膜下血肿的有效性及安全性。

1 资料与方法

1.1 研究对象 回顾性分析2014年1月1日至2021年12月31日收治的92例分隔型慢性硬膜下血肿的临床资料,其中35例应用神经内镜手术治疗(内镜组),57例采用钻孔引流术治疗(引流组),两组病人的基线资料无统计学差异(P>0.05,表1)。

1.2 影像学资料 术前CT或MRI检查发现分隔型硬膜下血肿,血肿被隔膜分成数个血肿腔(图1)。

1.3 手术方法

1.3.1 引流组 采用钻孔引流术治疗。依据血肿的位置及厚度在额部钻第一个孔,在顶结节附近钻第二个孔,分别置入引流管到血肿腔内,用温生理盐水反复冲洗,直至冲洗液清亮,引流管经皮下隧道穿出,逐层缝合切口。持续引流24~72 h后拔除引流管。

1.3.2 内镜组 根据血肿的位置选取血肿最厚层面取一弧形小切口,用铣刀铣开直径约3 cm的骨窗,用温生理盐水冲洗血肿腔后,用0°、30°神经内镜仔细观察硬膜下腔并清除未冲洗出的血凝块、纤维隔膜(图2),然后在神经内镜直视下置入引流管,逐层缝

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表1 分隔型慢性硬脑膜下血肿病人的临床特征

Table 1 Clinical characteristics of patients with septated chronic subdural hematoma

临床特征	内镜组	引流组	统计值	*P*值
年龄(岁)	67.2±11.27	67.37±11.27	t=0.049	0.961
男性(例)	25(71.4%)	49(86.0%)	χ^2=2.912	0.088
临床表现(例)				
肢体无力	21 (60%)	32(56.1%)	χ^2=0.132	0.719
头痛	12(34.3%)	29 (50.9%)	χ^2=2.416	0.120
头晕	11 (31.4%)	9 (15.8%)	χ^2=3.117	0.077
言语障碍	1 (2.9%)	1 (1.8%)	χ^2<0.001	>0.999
意识障碍	1 (2.9%)	1 (1.8%)	χ^2<0.001	>0.999
大小便失禁	0	4 (7.0%)	χ^2=1.158	0.282
癫痫	0	1 (1.8%)	χ^2<0.001	>0.999
恶心及呕吐	1 (2.9%)	3 (5.3%)	χ^2=0.001	0.982
外伤史(例)	21 (60%)	24 (42.1%)	χ^2=2.779	0.096
血肿侧别(例)			χ^2=0.185	0.912
左侧	12 (34.3%)	21 (36.9%)		
右侧	13 (37.1%)	22 (38.6%)		
双侧	10 (28.6%)	14 (24.6%)		
合并症(例)				
高血压病	10 (28.6%)	16 (28.1%)	χ^2=0.003	0.959
糖尿病	1 (2.9%)	1 (1.8%)	χ^2<0.001	>0.999
脑梗塞	2(5.7%)	9(15.8%)	χ^2=1.243	0.265
冠心病	5 (14.3%)	1 (1.8%)	χ^2=3.719	0.054
CT密度(例)			χ^2=1.127	0.569
低密度	5 (14.3%)	11 (19.3%)		
等密度	12 (34.3%)	14 (24.6%)		
混合密度	18 (51.4%)	32 (56.1%)		
血肿量(ml)	89.74±25.26	91.33±24.31	t=−0.350	0.727

注. 内镜组. 采用神经内镜手术治疗;引流组. 采用钻孔引流术治疗

合关颅,术后持续引流24~72 h后拔除引流管。

1.4 *随访* 术后24 h复查头颅CT明确硬膜下血肿清除情况。出院后,采用电话及门诊相结合的方法进行随访6个月,记录术后并发症、死亡及血肿复发情况,采用改良Rankin量表(modified Rankin scale, mRS)评分评估预后。

1.5 *统计学方法* 采用SPSS 20.0软件分析;计数资料采用χ^2检验或Fisher确切概率法;计量资料以$\bar{x}\pm s$表示,采用t检验;以P<0.05为差异具有统计学意义。

2 结 果

两组入院时、术后6个月mRS评分、术后并发症发生率、术后30 d病死率均无统计学差异(P>0.05,表2)。术后6个月,内镜组复发率明显低于引流组(P<0.05,表2)。

3 讨 论

目前,钻孔引流术仍是治疗慢性硬膜下血肿最主要的手术方式,且大多数效果良好。但术后复发率高,尤其是分隔型慢性硬膜下血肿,这可能与分隔型慢性硬膜下血肿中的纤维分隔将血肿分成不同分腔而阻止硬膜下血肿从钻孔处流出有关[5]。本文引流组术后复发率高达15.8%,而内镜组术后无复发。本文引流组采用双孔钻孔法,理论上更利于充分冲洗及打开分隔,但是也有相关研究表明慢性硬膜下血肿单孔及双孔钻孔术后复发无明显差异[6-8]。

Zhang等[9]纳入73例分隔型慢性硬膜下血肿,其中42例神经内镜手术后复发率(0)明显低于31例钻孔引流术病人(25.8%;P<0.05)。Amano等[10]回顾性分析380例慢性硬膜下血肿,结果表明神经内镜手

图1 分隔型慢性硬膜下血肿病人的CT表现

A. 轴位扫描表现,↑示慢性硬膜下血肿的分隔;B、C. 冠状扫描表现,⇧示慢性硬膜下血肿内的分隔将血肿分隔成数个血肿腔

Figure 1 CT features of segmented chronic subdural hematomas

A: Axial scan, ↑ indicates the septation of chronic subdural hematoma. B-C: Coronal scan, ⇧ indicates that the septation within the chronic subdural hematoma divides the hematoma into several hematoma cavities.

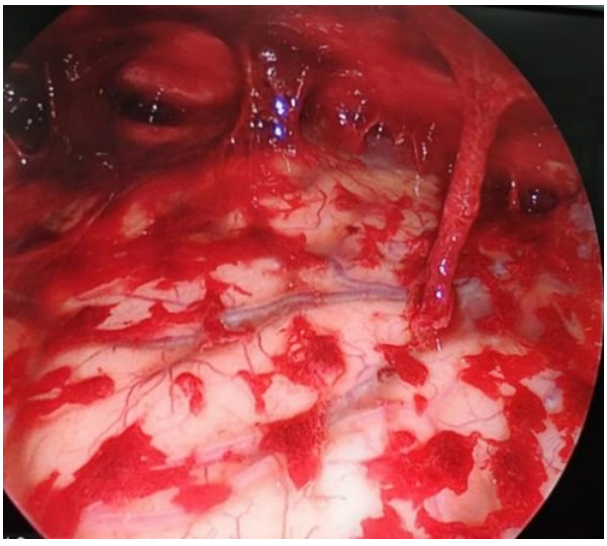

图2 神经内镜观察分隔型慢性硬膜下血肿
神经内镜下见硬膜下血肿内存在小梁及分隔

Figure 2 Observation of Segmented Chronic Subdural Hematoma by Neuroendoscopy
Under neuroendoscopy, trabeculae and partitions are observed within the subdural hematoma.

表2 分隔型慢性硬膜下血肿病人的手术效果
Table 2 Outcomes of patients with septated chronic subdural hematoma

评估指标	内镜组	引流组	χ^2值	P值
入院时mRS评分(例)			0.205	0.650
0~3	32(91.4%)	49 (86.9%)		
4~5	3(8.6%)	8 (14.0%)		
术后6个月mRS评分(例)			0.145	0.703
0~3	34(97.1%)	53 (93%)		
4~6	1(2.9%)	4 (7%)		
术后并发症(例)	5(14.28%)	8 (14.0%)	0.001	>0.999
颅内感染	1 (20%)	0		
癫痫	1 (20%)	2 (25%)		
急性颅内出血	1 (20%)	2 (25%)		
肺部感染	2 (40%)	4 (50%)		
死亡(例)				
30天内	0	0		
6个月内	1(2.9%)	3 (5.3%)	0.001	0.982
复发(例)	0 (0%)	9 (15.8%)	4.467	0.035

注. mRS. 改良Rankin量表；内镜组. 采用神经内镜手术治疗；引流组. 采用钻孔引流术治疗

术与钻孔引流术的并发症发生率及病死率无统计学差异(P>0.05)，但神经内镜术后血肿复发率及再手术率明显降低(P<0.05)。Yadav等[11]采用神经内镜手术治疗68例慢性硬膜下血肿，术后无血肿复发，无急性出血及感染，仅1例死亡。这表明神经内镜手术治疗慢性硬膜下血肿是有效的、安全的。Berhouma等[4]研究表明神经内镜手术治疗分隔型慢性硬膜下血肿创伤小，可以打开所有分隔，切除血肿内膜，可以在直视下留置引流管，避免损伤大脑皮层。Deng等[3]报道神经内镜手术治疗分隔型慢性硬膜下血肿是微创、安全、有效的，并发症少。Singh等[12]神经内镜手术治疗68例分隔型慢性硬膜下血肿，仅1例(1.47%)术后出现血肿复发。李彪等[13]研究表明神经内镜手术治疗慢性硬膜下血肿效果显著，适合有基础疾病的高龄病人。本文结果显示，神经内镜手术和钻孔引流术的预后、并发症发生率及病死率无统计学差异，但神经内镜手术后血肿复发率明显降低。这表明神经内镜手术治疗分隔型慢性硬膜下血肿微创，是安全、有效的，能在直视下清除血肿包膜，明显降低术后血肿复发率。

总之，神经内镜手术清除分隔型慢性硬膜下血肿是安全、有效的，相比钻孔引流术，神经内镜手术不但没有增加手术并发症，而且还可以降低术后复发率。这可能与神经内镜手术可在直视下打开血肿分隔，清除分隔内的血凝块有关[12]。

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【利益冲突声明】：本文不存在任何利益冲突。
【作者贡献声明】：王林林收集资料、分析资料并撰写论文；张亮整理资料；高文文整理资料并绘制表格；袁致海拟定写作思路及修改论文；杨磊、王凤鹿参与修改论文；赵海康参与论文修改并最后定稿。

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