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脑室镜和腹腔镜辅助脑室腹腔分流术治疗老年脑积水的疗效

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摘要 目的:探讨脑室镜和腹腔镜辅助脑室腹腔分流术治疗老年脑积水的疗效。**方法:**选择我院 90 例老年脑积水患者,按随机数字表法平均分为 A、B、C 3 组各 30 例,A 组患者给予传统脑室腹腔分流术治疗,B 组患者给予腹腔镜辅助下脑室腹腔分流术治疗,C 组患者给予脑室镜和腹腔镜综合辅助下脑室腹腔分流术治疗,比较 3 组患者治疗有效率及术后并发症发生率。**结果:**C 组患者治疗有效率为 90.0%,明显高于 A 组 63.3%及 B 组 76.7%,比较差异具有统计学意义(均 $P < 0.05$);C 组患者术后感染及分流管堵塞并发症发生率明显低于 A 组和 B 组,比较差异均有统计学意义(均 $P < 0.05$);B 组和 C 组脑实质内出血发生率均低于 A 组,与 A 组比较差异具有统计学意义($P < 0.05$)。**结论:**脑室镜和腹腔镜综合辅助下脑室腹腔分流术治疗老年脑积水的疗效显著,术后并发症少,值得推广。

关键词:脑积水;脑室腹腔分流术;脑室镜;腹腔镜

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The Efficacy of Ventricle Mirror and Laparoscopic Auxiliary Ventricular Peritoneal Shunt in Treatment of Elderly Hydrocephalus

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ABSTRACT Objective: To investigate the efficacy of ventricle mirror and laparoscopic auxiliary ventricular peritoneal shunt in treatment of elderly hydrocephalus. **Methods:** 90 cases of elderly hydrocephalus were selected from our hospital, they were divided into A, B, C three groups according to a random number table, with 30 cases in each group, the patients of the group A were given traditional ventricular peritoneal shunt, the patients of the group B were given ventricle peritoneal shunt assisted laparoscopic, the patients of the group C were given ventricle ventricular peritoneal shunt integrated mirror and laparoscopic-assisted treatment, efficiency and postoperative of three groups were compared. **Results:** The efficiency of the group C was 90.0%, significantly higher than the 63.3% in group A and 76.7% in group B, the difference was statistically significant (all $P < 0.05$); Postoperative infection and complication rates shunt tube blockage of the group C was significantly less than those of group A (all $P < 0.05$); Parenchymal hemorrhage of group B and the group C were significantly less than group A, the difference was statistically significant compared with group A (all $P < 0.05$). **Conclusion:** laparoscopic-assisted Ventricle ventricular peritoneal shunt integrated mirror had significant effect and low postoperative complications in treatment of elderly hydrocephalus. It is worth of popularization.

Key words: Hydrocephalus; Ventricular peritoneal shunt; Ventricle mirror; Laparoscopic

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前言

脑积水是临床常见的神经系统疾病,多因各种原因造成脑脊液正常循环障碍,其在脑室中积累,导致脑室扩大,并伴或不伴颅内压增高^[1,2]。目前,临床常用脑室腹腔分流术(ventriculo-peritoneal shunt, VPS)治疗,但疗效一般,且术后易发生分流管远端梗阻及感染等问题,手术失败率较高^[3,4]。近年来,随着脑室镜及腹腔镜技术的发展和完善,脑室镜、腹腔镜综合辅助下脑室腹腔分流术逐渐应用于脑积水的治疗中。本研究选择我院

90 例老年脑积水患者不同的手术治疗旨在探究最有效的治疗方案,为临床治疗提供理论依据,现报道如下。

1 资料与方法

1.1 一般资料

选择我院 2012 年 1 月至 2014 年 1 月收治的 90 例老年脑积水患者,均符合脑水肿诊断标准^[5],且经 CT 及 MRI 扫描确诊。其中男 48 例,女 42 例;年龄 65~80 岁,平均(69.5±7.8)岁;发病原因:高血压性 24 例,脑外伤 36 例,脑瘤 22 例,蛛网膜下腔出血 8 例;病发类型:交通性 45 例,梗阻性 32 例,正常压力 13 例。所有患者均表现出不同程度的头痛、恶心、呕吐、视物模糊、智力减退、大小便失禁、运动障碍等症状。所有患者按随机数字表法平均分为 3 组,A 组、B 组及 C 组各 30 例,3 组患者在性别、年龄、病因、症状等方面比较差异无统计学意义,

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具有可比性,见表 1。

表 1 三组一般资料比较

Table 1 Comparison of the general data among three groups

组别 Groups	性别(男/女) Gender (M/F)	年龄(岁) Age (years)	原因(例)Cause(cases)				类型(例)Type (cases)		
			高血压 Hypertension	脑外伤 Brain injury	脑瘤 Brain tumor	蛛网膜下腔出血 Subarachnoid hemorrhage	交通性 Communicating	梗阻性 Obstructive	正常压力 Normal pressure
A 组 Group A	16/14	69.5± 1.3	8	11	8	2	14	11	4
B 组 Group B	16/13	68.9± 1.4	9	13	7	3	15	10	5
C 组 Group C	16/15	70.2± 0.6	7	12	7	3	16	11	4

1.2 治疗方法

所有患者均取仰卧位全麻手术,头颅与腹部手术同时进行,A组患者给予常规手术治疗,从侧脑室的额角开始头颅穿刺,成功穿刺后将分流阀固定于耳后皮下,采用特制的中空通条把分流管白头皮下和连接泵相连,在腹直肌剑突下方将腹壁的全层切开,并把分流管引入腹腔中,可以看到分流管的腹腔端有脑脊液流出,将分流管置入腹腔右髂窝,不需固定,缝合腹壁。B组患者给予腹腔镜下脑室腹腔分流术:手术体位麻醉及穿刺引流均同A组,自脐部插入气腹针建立人工CO₂气腹,腹压12 mmHg,分别于脐部、左上腹及右上腹做10 mm、5 mm、5 mm腹壁切开,导入腹腔镜及相关设备,在腹腔镜辅助直视下将分流管腹腔端置入右上腹肝脏隔面,同时将分流管缝扎固定于肝镰状韧带,按压分流阀见腹腔端有脑脊液喷出后,缝合腹壁各切口。C组患者给予脑室镜、腹腔镜辅助下脑室腹腔分流术治疗,患者手术体位及麻醉同前两组,于冠状缝前1 cm、中线旁2~3 cm十字形切开硬膜,将带导芯的镜鞘插入侧脑室,拔出导芯,将脑室镜插入镜鞘,并将其尖端推进至同侧脑室额角处固定镜鞘,观察脑室内结构,在脑室镜辅助直视下脑室-

腹腔分流管穿刺同A组,分流管尖端位于额角,然后将内镜拔出,将脑室镜退出的时,注意观察脑室内有无损伤结构,并注意分流管位是否移动,将分流管固定。脑室-腹腔分流管与腹腔端的连接及腹腔镜手术的操作同B组。完成手术后,3组患者均行常规抗感染治疗。

1.3 观察指标

观察记录3组患者手术感染、引流管堵塞、脑实质内出血及低颅压症状等并发症的发生率。疗效评估参考冯斌等人的方案^[9],总有效=好转+有效。

1.4 统计学处理

应用SPSS16.0分析数据,计数资料采用 χ^2 检验,以 $P<0.05$ 差异有统计学意义。

2 结果

2.1 3组患者治疗疗效比较

C组患者治疗有效率为90.0%,明显高于A组63.3%及B组76.7%,比较差异具有统计学意义(均 $P<0.05$),见表2。

表 2 3组患者治疗疗效比较(n,%)

Table 2 Comparison of the efficacy among three groups (n,%)

组别 Groups	n	显效 Excellence	好转 Improvement	无效 Invalid	总有效率 Total effective rate
A 组 Group A	30	10	9	11	63.3 [▲]
B 组 Group B	30	13	10	7	76.7 [▲]
C 组 Group C	30	16	11	3	90.0

注:与C组比较,▲ $P<0.05$ 。

Note: Compared with group C, ▲ $P<0.05$.

2.2 3组患者术后并发症发生情况比较

C组患者术后感染及分流管堵塞并发症发生率明显低于A组和B组,比较差异均有统计学意义(均 $P<0.05$);B组和C

组脑实质内出血发生率均低于A组,与A组比较差异具有统计学意义($P<0.05$),见表3。

表 3 3组患者术后并发症发生率比较[n(%)]

Table 3 Comparison of the incidence of postoperative complications among three groups [n(%)]

组别 Groups	n	术后感染 Postoperative infection	分流管堵塞 Shunt tube blockage	脑实质内出血 Parenchymal hemorrhage	低颅压症状 Intracranial hypotension
A 组 Group A	30	11(36.7) [▲]	18(60.0) [▲]	3(10.0)	6(20.0)
B 组 Group B	30	7(23.3) [▲]	10(33.3) [▲]	1(3.3) [*]	4(13.3)
C 组 Group C	30	4(13.3)	6(20.0)	1(3.3) [*]	3(10.0)

注:与C组比较,▲ $P<0.05$,与A组比较,* $P<0.05$ 。

Note: Compared with group C, ▲ $P<0.05$, compared with group A, * $P<0.05$.

3 讨论

脑积水多由脑脊液循环受阻或吸收障碍,积液聚集与脑室形成伴或不伴颅内压增高^[7]。一般可分为交通性脑积水和梗阻性脑积水,或按压力分为高颅压性脑积水和正常颅压性脑积水^[9]。脑外伤及蛛网膜下腔出血等是造成脑积水的主要因素。目前,临床常用治疗脑积水方法为脑室腹腔分流术,其疗效确切,且操作简单是广大患者首选术式,但传统腹腔内置管均采用剖腹手术完成,手术切口较长,创伤大,患者术后不易恢复,且易发生术后感染等并发症^[10,11]。

随着微创技术的发展和运用,腹腔镜辅助下脑室腹腔分流术逐渐应用于临床脑积水的手术治疗过程中,在腹腔镜辅助下直视手术操作,可有效避免对腹腔脏器的损伤,且作为微创手术,切开较小,术中出血量少,患者术后恢复快,且分流管末端被固定于肝膈间隙,降低了分流管腹腔阻塞发生率^[12,13]。研究报道^[14],肝膈间隙是由膈肌的腹腔面和肝脏的膈面形成的,可以将分流管末端固定,进而不容易被网膜包绕、阻塞,显著降低梗阻发生率。脑室镜可以清楚的观察到脑内的结构,在其辅助下可以将分流管安全准确的放置,进而避免其进入脑室内的囊性部位,或导致梗阻性部位^[15,16]。因此,应用脑室镜来辅助放置管,可以显著降低分流管梗阻的发生率。本研究结果显示,使用脑室镜、腹腔镜辅助下脑室腹腔分流术治疗患者有效率为90.0%,明显高于传统手术治疗和单纯腹腔镜下脑室腹腔分流术,且其术后感染、分流管堵塞以及脑实质内出血发生率明显降低。结果表明,通过内镜的使用,可有效减少手术创伤,术后并发症少。且通过脑室镜和腹腔镜的联合应用可有效确保导流管两端管鞘位置的固定,建立一条新的脑脊液循环通路的建立,消除脑脊液在脑室或蛛网膜下腔中的积聚,解决脑积水的各种并发症^[17,18]。且两种辅助内镜的使用分别发挥各自优势,两者结合在脑积水的治疗中可起到事半功倍的作用,与相关研究报道一致^[19,20]。

总之,脑室镜、腹腔镜综合辅助下脑室腹腔分流术治疗老年脑积水疗效显著,可有效提高手术成功率,减少术后并发症,值得临床推广应用。

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