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血管内介入栓塞术治疗脑动脉瘤的疗效及对生活质量和预后的影响*

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摘要 目的: 探讨血管内介入栓塞术治疗脑动脉瘤的疗效及对生活质量和预后的影响。**方法:** 回顾性分析我院于2014年1月~2019年3月期间收治的80例脑动脉瘤患者的临床资料,根据手术方式的不同分为A组(n=38,开颅夹闭术)和B组(n=42,血管内介入栓塞术),比较两组患者临床疗效、生活质量、预后、复发率、并发症发生率及围术期指标。**结果:** B组术后6个月的临床总有效率为85.71%(36/42),高于对照组的65.79%(25/38)($P<0.05$)。两组患者术后6个月躯体功能、社会功能、认知功能、情绪功能、角色功能评分均升高,且B组高于A组($P<0.05$)。两组轻度残障率、重度残障率、植物生存率、死亡率以及复发率比较差异无统计学意义($P>0.05$);B组预后良好率明显高于A组($P<0.05$)。两组并发症发生率比较无差异($P>0.05$)。B组手术时间、住院天数、切口长度均短于A组,但住院费用高于A组($P<0.05$)。**结论:** 与开颅夹闭术相比,血管内介入栓塞术治疗脑动脉瘤,疗效确切,可有效改善患者生活质量及预后,且不增加复发率及并发症发生率,临床应用价值较高。

关键词: 血管内介入栓塞术;脑动脉瘤;疗效;生活质量;预后

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Effect of Endovascular Embolization on Quality of Life and Prognosis of Cerebral Aneurysms*

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ABSTRACT Objective: To investigate the effect of endovascular embolization on the quality of life and prognosis of cerebral aneurysms. **Methods:** The clinical data of 80 patients with cerebral aneurysms who were admitted to our hospital from January 2014 to March 2019 were retrospectively analyzed. The patients were divided into group A (n=38, craniotomy clipping) and group B (n=42, endovascular embolization) according to the different surgical methods. The clinical efficacy, quality of life, prognosis, recurrence rate, incidence of complications and perioperative indicators were compared between the two groups. **Results:** The total effective rate of group B was 85.71% (36/42) at 6 months after operation, which was higher than 65.79% (25/38) of the control group ($P<0.05$). The scores of somatic function, social function, cognitive function, emotional function and role function were increased between two groups at 6 months after operation, and those of group B were higher than those of group A ($P<0.05$). There was no significant difference in mild disability, severe disability, plant survival, mortality and recurrence rate between the two groups ($P>0.05$). The good prognosis rate of group B was significantly higher than that of group A ($P<0.05$). There was no significant difference in the incidence of complications between two groups during the follow-up period ($P>0.05$). The operation time, hospitalization days and incision length of group B were shorter than those of group A, but the hospitalization expenses were higher than those of group A ($P<0.05$). **Conclusion:** Compared with craniotomy, endovascular embolization for cerebral aneurysms has definite curative effect, it can effectively improve the quality of life and prognosis of patients, and it does not increase the recurrence rate and the incidence of complications. It has high clinical value.

Key words: Endovascular embolization; Cerebral aneurysm; Efficacy; Quality of life; Prognosis

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前言

脑动脉瘤是指脑动脉内腔的局限性异常扩大造成动脉壁

的一种瘤状突出,引起颅内动脉壁瘤样病变^[1]。该病临床表现为神经症状、头部剧痛、颈部抵抗、腰背疼痛等,随着病情进展,极易诱发自发性蛛网膜下腔出血^[2]。本病发病率高,致死致残率较

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高,预后较差,若未能及时予以治疗,可引起较为严重的并发症,给患者留下严重的后遗症,甚至危及患者性命^[9]。现临床针对脑动脉瘤的治疗主要以手术治疗为主,常见的手术方法有开颅夹闭术以及血管内介入栓塞术,其中开颅夹闭术是指利用脑组织间隙进行分离,将动脉瘤暴露后采取结扎的方式以阻断动脉瘤血供,进而防止动脉瘤破裂,以维持机体大脑功能的正常运行^[4-5],但此类手术创伤较大,术中可能损伤部分脑组织,存在一定缺陷^[6]。血管内介入栓塞术将介入栓塞治疗方法及影像学检查方法有效结合,实现了脑动脉瘤的微创治疗^[7]。本研究通过探讨血管内介入栓塞术治疗脑动脉瘤的疗效及其对生活质量及预后的影响,以期治疗脑动脉瘤的临床术式选择提供参考,现报告如下。

1 资料与方法

1.1 一般资料

回顾性分析我院于2014年1月~2019年3月期间收治的80例脑动脉瘤患者的临床资料,纳入标准:(1)诊断标准参考《王忠诚神经外科学》^[8],均经CT血管成像或数字减影血管造影检查证实患有脑动脉瘤;(2)临床表现为颈部抵抗、头部剧痛、神经症状、腰背疼痛、恶心呕吐等;(3)均具备手术指征,且可耐受手术者;(4)患者及其家属知情且签署同意书;(5)病例资料完整,均能完成随访研究者;(6)均于发病72h内接受手术治疗者。排除标准:(1)合并心肝肺肾等脏器功能不全者;(2)合并免疫系统、急慢性感染、凝血功能障碍者;(3)既往有脑创伤及脑梗死者;(4)伴有严重的基础疾病者;(5)合并严重精神类疾病者。将上述患者根据手术方式的不同分为A组(n=38,开颅夹闭术)和B组(n=42,血管内介入栓塞术),其中A组男21例,女17例,年龄41~68岁,平均(52.39±3.47)岁;Hunt-Hess分级^[9]:I级12例、II级17例、III级9例,病变部位:8例后交通动脉、14例后循环动脉、10例前交通动脉、6例其他部位。B组男22例,女20例,年龄40~69岁,平均(52.08±2.96)岁;Hunt-Hess分级:I级9例、II级18例、III级15例,病变部位:后交通动脉8例、后循环动脉16例、前交通动脉11例、其他部位7例。两组一般资料对比无差异(P>0.05),组间具有可比价值,此次研究经我院伦理学委员会批准进行。

1.2 治疗方法

患者入院后均给予常规处理,如降颅压、预防脑血管痉挛、引流脑脊液等。A组给予开颅夹闭术,术前确定好动脉瘤位置,全麻,常规气管插管,静脉滴注尼莫地平以防患者血管痉挛。常规消毒铺巾,取头皮处作7~8cm的切口,依次切开头皮、皮下组织及骨膜,行颅骨钻孔,用铣刀将骨窗铣下,切开硬膜以使

动脉瘤暴露,采用血管夹将动脉瘤血管血供阻断,依次分离动脉瘤及其粘连处,夹闭合适的动脉瘤,移除血管夹,确认夹闭瘤颈无出血后,常规留置引流管,随后缝合伤口,术后2~4h移除引流管。B组给予血管内介入栓塞术,全麻,常规气管插管,给予全身肝素化处理,控制收缩压<100mmHg,于术中静脉滴注尼莫地平以防患者血管痉挛。术前确定好动脉瘤位置、大小、方向及形态等,选取合适弹簧圈,采用Seldinger穿刺技术,于颈内动脉或椎动脉内置入6F动脉鞘,经微导丝阴道插入微导管,并在数字减影血管造影的指示下保证弹簧圈完全位于动脉瘤内。

1.3 观察指标

(1)术后门诊随访6个月,于术前、术后6个月采用健康调查简表(36-Item Short Form Health Survey, SF-36)^[10]评价患者生活质量,该量表包括躯体功能、角色功能、社会功能、情绪功能及认知功能等项目,100分/项,分数越高生活质量越高。(2)比较两组患者围术期指标情况,包括手术时间、住院天数、切口长度、住院费用。(3)于术后6个月采用格拉斯哥预后评分表(Glasgow Outcome Scale, GOS)^[11]分析两组患者预后情况。主要包括以下类型:预后良好:患者恢复良好,可正常维持社会活动;轻度残障:患者术后存在轻度残疾,生活可自理,且可在保护下工作;重度残障:患者术后存在残疾,意识清醒,但需在常人帮助下进行社会活动;植物生存:脑干反射消失,清醒和呼吸周期等存在;死亡。记录随访期间复发率发生情况。(4)比较两组术后6个月的临床疗效^[12]。显效:复查时动脉瘤消失,临床症状消失,神经功能基本正常恢复;有效:患者临床症状改善明显,复查时动脉瘤体积明显缩小,神经功能恢复明显;无效:上述指标均未达到或者死亡者。总有效率=显效率+有效效率。(5)记录两组随访期间并发症情况。

1.4 统计学方法

研究数据录入SPSS23.0软件处理,采用($\bar{x} \pm s$)表示计量资料,采用t检验,计数资料以率(%)表示,采用 χ^2 检验,检验标准设置为 $\alpha=0.05$ 。

2 结果

2.1 两组临床疗效比较

B组术后6个月的临床总有效率为85.71%(36/42),高于对照组的65.79%(25/38)(P<0.05);详见表1。

2.2 两组生活质量比较

两组患者术前躯体功能、社会功能、认知功能、情绪功能、角色功能评分比较差异无统计学意义(P>0.05);两组患者术后6个月上述项目评分均升高,且B组高于A组(P<0.05);详见

表1 两组临床疗效比较例(%)

Table 1 Comparison of clinical efficacy between two groups n(%)

Groups	Markedly effective	Effective	Invalid	Total effective rate
Group A(n=38)	9(23.68)	16(42.11)	13(34.21)	25(65.79)
Group B(n=42)	15(35.71)	21(50.00)	6(14.29)	36(85.71)
χ^2				4.372
P				0.037

表 2。

表 2 两组生活质量比较($\bar{x}\pm s$, 分)
Table 2 Comparison of quality of life between two groups($\bar{x}\pm s$, score)

Groups	Somatic function		Social function		Cognitive function		Emotional function		Role function	
	Preopera- tive	6 months after operation	Preopera- tive	6 months after operation	Preopera- tive	6 months after operation	Preopera- tive	6 months after operation	Preopera- tive	6 months after operation
Group A (n=38)	62.35±6.24	74.36± 10.18*	59.16±7.29	69.28± 10.12*	62.02± 10.13	78.17± 9.21*	65.07±8.13	76.34± 10.16*	64.88±8.23	74.11± 10.19*
Group B (n=42)	61.73±5.12	81.53± 8.27*	58.82±8.13	85.56± 10.11*	61.88± 12.19	86.52± 12.13*	64.91± 10.19	88.19± 10.13*	65.07± 10.19	85.02± 12.16*
t	0.488	3.471	0.196	7.189	0.056	3.439	0.077	4.710	0.091	4.324
P	0.627	0.001	0.845	0.000	0.956	0.001	0.939	0.000	0.928	0.000

Note: Compared with preoperative, *P<0.05.

2.3 两组 GOS 预后及随访期间复发率的比较

间比较差异无统计学意义(P>0.05);B 组预后良好率明显高于

两组轻度残障、重度残障、植物生存、死亡率以及复发率组 A 组(P<0.05);详见表 3。

表 3 两组 GOS 预后及随访期间复发率的比较【(%)】

Table 3 Comparison of GOS prognosis and recurrence rate during follow-up between two groups[n(%)]

Groups	Good prognosis	Mild disability	Severe disability	Plant survival	Death	Relapse rate
Group A(n=38)	21(55.26)	7(18.42)	6(15.79)	2(5.26)	2(5.26)	5(13.16)
Group B(n=42)	34(80.95)	4(9.52)	3(7.14)	0(0.00)	1(2.38)	3(7.14)
χ^2	6.139	1.332	1.494	2.267	0.459	0.802
P	0.013	0.249	0.222	0.132	0.498	0.370

2.4 两组并发症比较

表 4。

两组随访期间并发症发生率对比无差异(P>0.05);详见

表 4 两组并发症发生情况比较【例(%)】

Table 4 comparison of complications between two groups[n(%)]

Groups	Cerebral vasospasm	Pulmonary infection	Hydrocephalus	Disorder of water and electrolyte	Rebleeding	Total incidence rate
Group A(n=38)	5(13.16)	2(5.26)	3(7.89)	3(7.89)	2(5.26)	15(39.47)
Group B(n=42)	4(9.52)	2(4.76)	3(7.14)	2(4.76)	1(2.38)	12(28.57)
χ^2						1.061
P						0.303

2.5 两组围术期指标比较

B 组手术时间、住院天数、切口长度均短于 A 组,但住院费用多于 A 组(P<0.05);详见表 5。

3 讨论

脑动脉瘤是临床常见脑部血管性疾病,同时也是导致患者

表 5 两组围术期指标比较($\bar{x}\pm s$)

Table 5 Comparison of perioperative indicators between two groups($\bar{x}\pm s$)

Groups	Operative time(h)	Incision length(cm)	Hospitalization days(d)	Hospitalization expenses (Ten thousand yuan)
Group A(n=38)	3.06±0.12	7.64±0.25	14.31±1.35	3.05±0.23
Group B(n=42)	2.53±0.16	2.31±0.35	10.24±1.21	6.01±0.24
t	16.620	77.633	14.221	56.185
P	0.000	0.000	0.000	0.000

蛛网膜下腔出血的主要病因^[13-15]。脑动脉瘤的好发部位为脑动脉主干处和脑动脉分叉处，在血液长期的压力和冲击作用下，脑动脉该处的动脉壁薄弱且向外膨出，随着病情进展，可逐渐扩张，最终形成动脉瘤^[16-18]。既往调查研究结果显示^[19]，脑动脉瘤的发病率虽然没有高到一定程度，但也已达到2%，且近年来的发病率呈逐年递增趋势，而在2%的发病患者之中约有0.5%的脑动脉瘤会发生破裂导致患者死亡。在脑动脉瘤的治疗过程中，开颅夹闭术虽然应用较为广泛，但其术后创伤大、易损伤患者脑部神经，影响患者术后康复及生活质量，这些均给患者及家属带来严重的心理及经济负担^[20-22]。伴随外科技术的发展，血管内介入栓塞术在脑动脉瘤的治疗中已逐渐应用，该术式可避免开颅手术对患者造成的损伤及术中神经损伤，但因该术式在血管内完成操作，手术难度较大^[23]，尚需进一步的论证报道以验证其治疗效果。

本次研究结果显示，两组患者B组术后6个月的临床总有效率高于对照组，可见与开颅夹闭术相比，血管内介入栓塞术治疗脑动脉瘤疗效更佳。分析其原因，主要是血管内介入栓塞术是通过血管内栓塞技术实现治疗脑动脉瘤的目的，与开颅夹闭术相比，在手术前进行栓塞，可有效减小瘤体体积，同时为下一步的手术切除提前做准备^[24-26]；此外，患者在栓塞以后，肿瘤的供血量受到限制，可减少出血量，增加术中视野清晰度，提高手术成功率。研究中B组手术时间、住院天数、切口长度均短于A组，但住院费用多于A组，充分体现了血管内介入栓塞术治疗的微创性，术中创伤小，术后恢复快，而其住院费用较高则是因血管内介入栓塞术手术难度大，手术学习曲线长，且手术所使用的器材昂贵所致。本研究还对两组患者进行为期6个月的随访，结果发现，血管内介入栓塞术在改善患者生活质量及预后良好率方面的效果均优于开颅夹闭术者，这主要是因为血管内介入栓塞术作为一种微创术式，手术成功率及安全性均较高，术后患者可迅速恢复，尽早恢复社会功能，有效改善其生活质量及预后^[27-29]。另两组复发率、随访期间并发症发生率对比均无差异，可见血管内介入栓塞术安全性较好，且不增加术后复发率，而王宁等人^[30]研究结果却显示，血管内介入栓塞术治疗脑动脉瘤可有效减少术后并发症发生率，这与本次研究结果尚存在一定的差异，这可能是本次研究纳入样本量偏少，同时也存在患者个体差异性问题导致的，后续报道将扩大样本量、增加随访时间以获取更为准确的数据。值得注意的是，血管内介入栓塞术中迅速推动弹簧圈至动脉瘤内部，选择合适的弹簧圈填塞瘤腔，且术中需要施术者动作轻柔，实际治疗中应根据患者实际情况和医疗设施条件合理选择术式。

综上所述，采用血管内介入栓塞术治疗脑动脉瘤可有效改善患者生活质量及预后，安全性较高。

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