Therapeutic Effect of High-grade Aneurysmal Subarachnoid Hemorrhage in Patients with Intracranial Aneurysm and Embolization

Haonan Liu and Aimin Li*

Department of Neurosurgery, Lianyungang Clinical College of Nanjing Medical University, Lianyungang, 222000, China

E-mail: 1127595015@qq.com

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Abstract: To study the efficacy of high-grade aneurysmal subarachnoid hemorrhage through intracranial clipping and intracranial aneurysm interventional embolization. Methods From January 2017 to December 2019, 68 patients with high-grade aneurysmal subarachnoid hemorrhage (aSAH) treated in our hospital during the three-year period were selected, and all patients were divided into The reference group (34 cases, treated with intracranial clipping) and the study group (34 cases, treated with intracranial aneurysm interventional embolization) were compared to observe the treatment effects of the two groups, such as the incidence of complications and prognosis of the patients. Good rate, etc. Results The complication rate of high-grade aSAH patients in the study group was 2.94%, and the complication rate in the reference group was 17.65%. Compared with the reference group, complications such as cerebral vasospasm, hydrocephalus and rebleeding occurred in the study group. The rate was lower ($P < 0.05$). The good prognosis of high-grade aSAH patients in the study group was 94.12%, and the good prognosis of the reference group was 76.47%. Compared with the reference group, the good prognosis of the study group was higher and the intracranial Aneurysm interventional embolization is more effective ($P < 0.05$). Conclusions Intracranial aneurysm interventional embolization is more effective than intracranial clipping in this experiment. It is of great significance to improve the prognosis of patients and improve clinical efficacy. The effect is accurate and worthy of popularization and promotion.

High-grade aneurysmal subarachnoid hemorrhage disease is characterized by high mortality, poor prognosis, and high disability [1]. According to relevant clinical reports, the application of intracranial aneurysm interventional embolization in the clinical treatment of high-grade aSAH patients can achieve satisfactory clinical results [2]. It is beneficial to improve the patient's related symptoms, reduce the patient's subarachnoid hemorrhage, and then improve the patient's quality of life. However, there are few reports in this regard, and the relevant clinical evidence is still lacking. In this experiment, the clinical efficacy of 68 high-grade aSAH patients in the study group and the reference group was observed and discussed. The purpose of this study was to analyze the differences between different treatment options in improving the treatment effect of subarachnoid hemorrhage in patients. The results of this study are presented below.

1. Materials and Methods

1.1 General Information

From January 2017 to December 2019, 68 patients with high-grade aSAH who were admitted during this three-year period were selected, and all patients were divided into the reference group according to the random drawing method (34 patients with intracranial clamping). Surgical treatment method) and the study group (34 cases, using intracranial aneurysm interventional embolization treatment), 14 patients in the study group, 20 males, age range 36-66 years, mean age (51.42 ± 5.74) years. There were 15 females and 19 males in the reference group. The age range was 37-68 years, and the average age was (51.58 ± 5.68) years. All high-grade aSAH patients and their families selected for the study were signed and approved by the Medical Ethics Committee.

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The basic information such as the course of the disease and the condition of the two groups were shown by statistical comparison and analysis. The differences were slight (P> 0.05), which could be compared and discussed.

1.2 Method

The reference group (34 cases, treated with intracranial clipping) was treated with general anesthesia, and the surgical approach was determined according to the specific location of the patient's intracranial aneurysm, mainly including the posterior communication artery, anterior communication artery, and middle cerebral artery. Approaches such as pterygium, anterior cerebral artery. After cutting and separating each layer of the scalp, free the patient's skin and muscle flaps, open the dura mater and carefully observe the anatomy of the cerebral blood vessels with a microscope, isolate the tumor neck, carefully select the location of the aneurysm for clamping, and strictly stop bleeding during the operation. The incision was closed layer by layer, and the patient's neurological function was closely monitored after the operation.

The study group (34 cases, using intracranial aneurysm interventional embolization treatment), all patients underwent general anesthesia under tracheal intubation for interventional embolization, specifically for coil embolization and stent-assisted embolization, all patients within 3 days after onset Underwent surgery. During the interventional treatment, the diameter of the aneurysm was measured according to the results of the DSA examination, and a microcatheter was placed in the aneurysm. The electrolytic deplatinated gold coil was gradually inserted into the patient's aneurysm along the microcatheter for embolization treatment until the embolization was completed The entire aneurysm cavity. After the embolization is completed, the tamping work is done to ensure the arterial blood flow of the patient.

1.3 Observation indicators

(1) Observe and evaluate the incidence of complications in the study group and the reference group by counting the incidence of cerebral vasospasm, the incidence of hydrocephalus, and the incidence of rebleeding. (2) Observation and evaluation of the prognosis of the study group and the reference group by the Lascoe Prognostic Scale (GOS). The recovery is good: the patient has mild symptoms but does not affect daily life; moderate disability: patient Loss of a certain ability to live and exercise; Severe disability: The patient completely loses sensation and exercise ability and cannot perform daily activities independently; plant state: the patient is in a low-response persistent state type.

1.4 Statistical methods

Complications and GOS scale (count data,%) at 3 months after operation were entered into statistical software (SPSS21.0 software) and verified by $\chi 2$. A comparison of closed surgery is considered to be of significance if (P <0.05).

2. Conclusion

2.1 Comparison of complications in 68 high-grade aSAH patients

After observing and comparing the complication of high-grade aSAH patients in the reference group and the study group, the complication rate of high-grade aSAH patients in the study group was 2.94%, and the complication rate of the reference group was 17.65%, compared with the reference. The incidence of complications such as cerebral vasospasm, hydrocephalus and rebleeding in the study group was lower (P <0.05). The details are shown in Table 1.

Table 1 Comparison of complications among high-grade aSAH patients in the study group and the reference group [n, (%)]

Group	Number of cases	Cerebral vasospasm	hydrocephalus	Rebleed	Complication rate (%)
Research group	34	0	1(2.94%)	0	1(2.94%)
Reference group	34	2(5.88%)	3(8.82%)	1(2.94%)	6(17.65%)
χ^2	-	2.061	1.063	1.015	3.981
P	-	0.151	0.303	0.314	0.046

2.2 Comparison of the prognosis of 68 high-grade aSAH patients

After observing and comparing the prognosis of high-grade aSAH patients in the reference group and the study group, the good prognosis rate of high-grade aSAH patients in the study group was 94.12%, and the good prognosis rate of the reference group was 76.47%. The prognosis rate was higher, and the effect of interventional embolization of intracranial aneurysm was better ($P < 0.05$). The details are shown in Table 2.

Table 2 Comparison of GOS scales between the study group and the reference group of patients with high-grade aSAH at 3 months after operation

Group	Number of cases	Good recovery	Moderate disability	Severe disability	Plant state	Good prognosis
Research group	34	14(41.18%)	18(52.94%)	1(2.94%)	1(2.94%)	32(94.12%)
Reference group	34	11(32.35%)	15(44.12%)	5(14.71%)	3(8.82%)	26(76.47%)
χ^2	-	0.569	0.530	2.925	1.063	4.221
P	-	0.451	0.467	0.087	0.303	0.040

3. Discussion

Aneurysmal subarachnoid hemorrhage is a disease with a higher mortality rate [3]. It has the characteristics of rapid onset, rapid disease progression and high disability and mortality. The prognosis of aSAH is mainly closely related to the history of hypertension, tobacco and alcohol addiction, the degree of atherosclerosis, the choice of surgical method, age, and timing of treatment [4]. High-grade aneurysmal subarachnoid hemorrhage disease is characterized by high mortality, poor prognosis, and high disability rate. With the progress of medical and health services in recent years, some results have been achieved in the treatment of high-grade aSAH [5]. Surgical treatment at this stage is the main program for clinical treatment of high-grade aSAH in China. Intracranial clamping and intracranial aneurysm interventional embolization are common surgical methods.

The treatment of intracranial clipping has a certain improvement effect on patients with subarachnoid hemorrhage, but it is easy to affect the local tissue and blood vessel formation of the patient, and it will take longer to recover after surgery. Will increase the risk of complications such as cerebral vasospasm, hydrocephalus and rebleeding in patients after surgery [6]. Intracranial aneurysm interventional embolization can be selected clinically according to the situation of the patient. It mainly includes spring coil embolization and stent-assisted embolization. Electrolytic deplatinized gold coils are gradually placed along the microcatheter into the patient's aneurysm for embolization treatment. Intracranial aneurysm interventional embolization is a minimally invasive surgery. Fast recovery and good prognosis. In this study, compared with the reference group, the incidence of complications such as cerebral vasospasm, hydrocephalus and rebleeding in the study group was lower, and the prognosis of the study group was higher, suggesting that the intracranial

aneurysm was embolized. The implementation effect is better, which is beneficial to improve the related symptoms of patients, reduce the incidence of complications of patients, and then improve the quality of life of patients.

The results of the study indicate that the interventional embolization of intracranial aneurysms has a better effect than the treatment of intracranial clipping in this experiment, and it is of great significance to improve the prognosis of patients. At work.

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