

Observation on the application of emergency green channel in clinical rescue of acute cerebral haemorrhage patients.

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Abstract

Objective: The emergency green channel in patients with acute cerebral haemorrhage clinical rescue was investigated in the result analysis.

Methods: Between January 2012 and January 2013, a total of 68 patients with acute cerebral haemorrhage were treated as the main object of the present study and randomly divided into the observation (n=34) and control groups (n=34). The control group includes patients without prehospital emergency green channel, whereas the observation group includes patients in prehospital emergency green channel. In the two groups of patients, the treatment time, clinical curative effect, and daily life ability score (Barthel Index), and motor function (FMA score) were evaluated and compared.

Results: The treatment time of the observation group is significantly shorter than that of the control group. The clinical curative effect of the observation group is superior to that of the control group. The observation group is significantly better than the control group when the Barthel index and FMA scores of both groups are compared; the difference is statistically significant ($P<0.05$).

Conclusion: The effective emergency green channel in patients with acute cerebral haemorrhage treatment grasps timely treatment, improves the success rate of the rescue, and promotes getting the patients with exact auxiliary treatment, thereby improving prognosis and the quality of survival that is worthy of clinical popularization and application.

Keywords: Green channel, Emergency department, Sudden cerebral haemorrhage, Quality of life.

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Introduction

The main reason for cerebral haemorrhage, which often occurs among senior people, is the sudden rise of the patient's blood pressure, relatively causing the burst of the micro vascular cells in the brain [1-3]. The haemorrhage caused by this disease oppresses brain tissue, causing brain oedema around the brain. In addition, the sudden onset of the disease, dangerous conditions, and high mortality all bring heavy negative effect to the patient and their family's quality of life [4,5]. The emergency green channel provides a rescue process for urgent and severe cases and a smooth process for diagnosis and maltreatment to save patients' lives in time, thereby improving the success rate in rescuing patients and reducing medical risk [6-8]. The study arranges the acute cerebral haemorrhage patients in the hospital's emergency green channel to explore the observation on the application of the emergency green channel in clinical rescue of acute cerebral haemorrhage patients. The results are reported and discussed in the following sections.

Materials and Methods

General data

The objects are 68 cases of acute cerebral haemorrhage patients taken from January 2012 to January 2013. Inclusion criteria included the following: (1) all patients meet the relevant diagnosis criteria of cerebral haemorrhage, as confirmed by craniocerebral CT or MRI; (2) all of the patients' National Institutes of Health Stroke Scale (NIHSS) score are more than 25 points and less than 35 points, and all of the patients' Barthel Index (BI) scores are below 45 points; and (3) all patients have no serious heart, lung, liver, and kidney complications. Exclusion criteria includes: (1) patients with disturbance of consciousness, whose GCS score are less than 9 points; (2) patients with other recent haemorrhagic disease; (3) patients and their families are not willing to participate in this study and poor adherence; and (4) patients complicated with serious mental illness and dementia.

The 68 patients were divided into the observation and control groups, with 34 cases each, according to the random number table method. There are 19 males and 14 females in the observation group with an age range of 43-70 years old; the

average age is 51.23 ± 3.22 years old. In the observation group, 12 cases reached above junior high school as their highest educational attainment. There are 20 males and 14 females in the control group with an age range of 43-70 years old; the average age is 50.22 ± 2.96 years old. Of the cases, 20 reached above junior high school as their highest educational attainment, whereas 24 did not. The factors of the two groups (average age, gender, and cultural level, etc.) showed little difference ($P > 0.05$). Thus, they were compared by statistical analysis.

Method

Both groups received regular acute cerebral haemorrhage treatment. Intracranial antihypertensive therapy and nimodipine were used as medical aids to improve the patient's brain microcirculation, assisted by wound haemostasis, oxygen mask, and the use of diuretics to eliminate symptoms of cerebral oedema. The patients are transferred straight to the emergency department, with subsequent rehydration, and the patients are assisted by the Specialty Department after regular examination.

For the patients in the control group, the emergency green channel is not applied. Instead, the emergency ward-sickroom-operating room mode is applied. After the patient is transferred to the sickroom from the emergency ward, the doctor in the sickroom makes a definite diagnosis of acute cerebral haemorrhage according to the patients' symptoms and radiography and contacts a physician in the operating room for surgery. For the observation group, the patients are treated with the emergency green channel with the following method.

Emergency assessment

Cars are sent off the moment the emergency department receives instructions to apply treatment immediately and save the patients as soon as possible. A guide nurse, who receives patients and families, waits at the outpatient hall. A clinic triage nurse quickly checks the patient from head to foot, making a first assessment of the condition and makes an accurate judgment by using medical knowledge and clinical experience of the patients' disease.

Salvage at scene

The scene rescue nursing staff monitors the vital signs of the patients from time to time. If a patient is in cardiac arrest, CPR electrical shock is applied immediately. If a patient has a respiratory disorder, his oral cavity is cleared. Endotracheal intubation and simple breathing machine are used to maintain breathing. If a patient is in a coma, anisocoria using mannitol drip or diuretics for dehydration are used to eliminate cerebral oedema. A venous channel for rehydration is established to prevent shock. Uncooperative patients are given sedatives.

Safe transport

The staff works to properly place, handle and transport patients safely. In the course of transit, followers should always pay

close attention to the patient's vital signs, the pupil and consciousness, combining with synchronous treatment. If a patient repeatedly vomits in the process, the nursing staff should lean the patient's head to one side, thereby cleaning the oral cavity and preventing suffocation until the patient is safely sent to a specialist ward.

Humanistic company and psychological intervention

Emergency nurses should dress in uniforms with an emergency sign and support the patient and their family by providing assistance during payment, registration in the hospital, and obtaining medicine. Nurses need to gather blood specimens and inform the inspection department. The nurses also need to do other related inspections. The emergency nurses everywhere need to be available any time. If a patient asks questions, the nurse explains the answer politely, discusses psychological intervention, informs the patient of the purpose of the relevant examination and its necessity, and provides guidance in cooperating during the medical treatment and personnel matters, thereby improving the degree of cooperation between the patient and the hospital staff. For the patients who agree to take the surgery, CT positioning needs to be redone, which may cause bad feelings among the patients and their family. Thus, explaining the situation is necessary to shorten the testing time and improve the efficiency of diagnosis and treatment, thereby helping with peaceful acceptance of the diagnosis and treatment.

The two groups of patients are evaluated and compared according to treatment time, clinical curative effect, daily life ability score (Barthel Index (BI)), and motor function (Fugl-Meyer Assessment (FMA) score). The data is dealt with using the SPSS21.0 statistical software package; measurement data is shown in $x+s$ mode. T test is used to compare the counting data difference between the two groups. The difference is statistically significant at $p < 0.05$.

Results

Contrast treatment time of the two groups of patients

Through comparison, the treatment time of the patients in the observation group is significantly shorter than the patients in the control group ($P < 0.05$) as shown in Table 1.

Table 1. Treatment time of the two groups.

Groups	n	Prehospital emergency time	Emergency rescue time	Auxiliary examination time	Injury to the operation time
Observation	34	19.32 ± 1.55	18.45 ± 3.88	33.10 ± 3.01	69.90 ± 5.02
Control	34	28.02 ± 2.01	24.20 ± 2.22	56.22 ± 5.02	93.21 ± 6.22
t		3.558	3.210	6.442	8.909

p	<0.05	<0.05	<0.05	<0.05
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Clinical efficacy comparison of the two groups of patients

Compared with the control group, the clinical curative effect of the observation group is superior (P<0.05), as shown in Table 2.

Table 2. Comparison of the clinical curative effect of the two groups of patients.

Groups	n	Significant	Effective	Ineffective	Total effective rate
Observation	34	21 (61.76)	10 (29.41)	3 (8.83)	31 (91.17)
Control	34	14 (41.18)	11 (32.35)	9 (26.47)	25 (73.53)
χ^2					3.446
P					<0.05

Comparison of the modified Barthel Index (BI) and FMA scores of the two groups of patients

The score of the observation group in the Barthel Index (BI) and FMA scores are significantly higher than the control group after comparison; the difference is statistically significant (P<0.05) as shown in Table 3.

Table 3. Modified Barthel Index (BI) and FMA scores of the patients in the two groups.

Groups	Modified barthel score		FMA score	
	Pre	Post	Pre	Post
Observation	33.55 ± 6.89	80.88 ± 15.65	32.33 ± 5.98	64.50 ± 6.02
Control	34.02 ± 7.02	52.01 ± 13.33	32.78 ± 6.01	49.87 ± 6.38
t	3.221	7.902	3.402	6.823
P	>0.05	<0.05	>0.05	<0.05

Discussion

The characteristics of acute cerebral haemorrhage disease are the following: urgency, serious condition, and high disabling fatality rate. The gold treatment time is 6 h after the onset of illness. If rescue does not arrive within 6 h, the prognosis of the patients could be highly affected, thereby leading to injury in terms of body function and even death [9-11]. According to related literature, rapid and effective intensive care treatment for the patients is the key because it effectively reduces the patient’s death morbidity. This kind of patient is in an acute stage and is often accompanied by complications, such as cerebral water brain and intracranial pressure; therefore, the implementation of efficient rescue is crucial to the prognosis of the patients [12-14]. The emergency green channel is an effective mechanism for the treatment of patients with critical illness, and it has become the consensus of the emergency

department of national hospitals to provide efficient service measures for critically ill patients.

Strengthening timely and effective first aid at the scene

The emergency department is used to providing patient rescue at a fast pace by raise and run. This pattern has certain limitations, including paying attention to the patient’s current condition. The emergency green channel guides the emergency medical staff to pay attention and emphasize the prehospital first aid, which means that the patients need to be rescued before entering the hospital. Acute cerebral haemorrhage may cause mouth and nose bleeding and aspiration asphyxia. Thus, effective measures need to be taken at the scene to keep the patient smoothly breathing and to establish venous channel at the same time for early dehydration and prevention of complications. When the condition and vital signs are stabilized and improved, transshipment is made.

Breaking the routine and collaborating two chains

The emergency green channel is based on emergency department CT room nerve specialist department operating room as the main channel. The emergency department prescription checkout room B ultrasonic room is a complementary chain. The two chains are in collaborative management. After a patient is sent to the emergency department, his or her condition is reasonably evaluated, and blood drawing and preoperative preparation are done. The nurse informs the radiologists to prepare for CT examination and to prepare the examining machine (i.e., put it on standby mode). The specialist in the radiology department sends the preliminary reading to save time even before the reading of the test results is completely made. For patients already with operation indications, surgery is arranged. The operation can be grouped to shorten operation time and improve survival rate. Late first aid and long prognosis of patients are likely to lead to limb dysfunction or death because the disease causes irreversible damage and certain complications.

Optimization and improvement of the management process

Through the continuous improvement of the emergency green channel management process, simplifying the heavy and complicated diagnosis and treatment process are achieved. The patients who enter the channel are treated before payment, examined before checking and treating priority, and so on, shortening treatment time and improving the efficiency of diagnosis and treatment. Specific psychological intervention measures, namely emotionally guiding the patients to cooperate with treatment, promote a positive attitude among the patients and their family members when faced with disease, thereby emphasizing human intervention.

The time of the patients through the emergency green channel is significantly shorter than the ones in the conventional treatment, thereby explaining that the emergency green channel

promotes the reaction speed of first aid and adds the effectiveness of emergency. For example, some patients live far from the hospital; thus, shortening the time is difficult. Obtaining treatment before payment shortens the time to a large extent. At the same time, the curative effect of the observation group, daily life ability, and movement function is significantly better than the control group, thereby illustrating the effective prehospital emergency treatment. Missing the best treatment time is avoided, and the possibility of complications is reduced. This helps with early prevention of risk factors and promotes the clinical curative effect, thereby contributing to better recovery. The results are similar with the ones obtained by Longfei et al. [15].

Conclusion

The emergency green channel effectively improves clinical therapeutic effect reduces morbidity and mortality to a certain extent, and improves the prognosis of the patients. Therefore, it has a positive effect on the treatment of patients with acute cerebral haemorrhage.

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