

The Effect of Detailed Nursing in the Perioperative Period on Patients with Hypertensive Cerebral Hemorrhage

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Abstract: *Objective:* To explore the clinical effect of detailed nursing on patients with hypertensive cerebral hemorrhage during the perioperative period. *Methods:* The study was carried out from January 2022 to June 2023. A total of 98 patients with hypertensive cerebral hemorrhage were sampled and divided into a research group ($n = 49$) and a control group ($n = 49$) by the digital table method. Patients in the control group received basic perioperative care, and patients in the research group received detailed perioperative care. The complication rate, quality of life scores, and nursing satisfaction were compared between the two groups. *Results:* The incidence of complications in the research group was lower than that in the control group ($P < 0.05$); the quality-of-life score of the patients in the research group was higher than that in the control group ($P < 0.05$); the nursing satisfaction of the patients in the research group was higher than that in the control group ($P < 0.05$). *Conclusion:* Detailed perioperative nursing care for patients with hypertensive cerebral hemorrhage can reduce the complication rate and improve the quality of life and nursing satisfaction. Therefore, this practice should be popularized in medical institutions.

Keywords: Detailed nursing; Hypertensive cerebral hemorrhage; Complications; Quality of life; Nursing satisfaction

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1. Introduction

Hypertensive intracerebral hemorrhage is a common clinical cerebrovascular disease that is characterized by necrosis, ischemia, and degeneration of cerebral artery walls caused by hypertension, which in turn leads to rupture of cerebral blood vessels and cerebral parenchymal hemorrhage^[1]. The onset of hypertensive intracerebral hemorrhage is sudden, and the main symptoms of patients are hemiplegia, sensory disturbance, nausea and vomiting, impaired consciousness, etc. If it is not treated in time, it may be life-threatening^[2]. The main clinical treatment for hypertensive intracerebral hemorrhage is by removing the hematoma through surgery. In order to ensure the effect of surgery and prognosis, careful and comprehensive nursing intervention is required during the perioperative period^[3,4]. In this study, 98 samples of patients with hypertensive cerebral hemorrhage were included to explore the clinical effect of detailed perioperative nursing.

2. Materials and methods

2.1. General information

Matters related to this study were approved by the hospital's medical ethics committee. The study was carried out from January 2022 to June 2023. A total of 98 patients with hypertensive cerebral hemorrhage were sampled. They were divided into the research group ($n = 49$) and the control group by the digital table method. The research group consisted of 26 males and 23 females, with an age range of 44–65 years, with an average age of 54.58 ± 4.26 years, including 15 cases of lobar hemorrhage, 18 cases of basal ganglia and internal capsule hemorrhage, and 16 cases of hemorrhage in the thalamus and other parts. In the control group, there were 27 males and 22 females, with an age range of 46–64 years, with an average of 54.63 ± 4.19 years, including 17 cases of lobar hemorrhage, 15 cases of basal ganglia and internal capsule hemorrhage, and 17 cases of hemorrhage in the thalamus and other parts. The general data of the two groups of patients were comparable ($P > 0.05$).

Inclusion criteria: (1) Diagnosed with hypertensive intracerebral hemorrhage through imaging examinations, (2) fulfilled surgical indications, (3) patients or family members signed the research consent form.

Exclusion criteria: (1) Presence of coagulation dysfunction, (2) presence of major organ diseases such as heart, lung, liver, or kidney diseases, (3) incompliance with the study procedures.

2.2. Methods

Patients in the control group received basic perioperative care. Nurses completed various preoperative preparations and assisted the physicians during surgery. Patients' vital signs were monitored after surgery, incision care was given, smooth drainage was ensured, and the physicians were informed in case of abnormalities.

The patients in the research group were given detailed nursing in the perioperative period, and the specific procedures were as follows.

(1) Preoperative care

(i) Surgery preparation: Preoperative nurses assisted patients in completing coagulation, hematuria routine, blood type, and other examinations according to the doctor's instructions. The electrocardiogram (ECG) of the patients was monitored, and the puncture points were marked based on CT examinations. The patients' breathing and urinary tract were kept unobstructed, some patients underwent tracheotomy or intubation, and the insertion of the indwelling urinary catheter was completed in a standardized manner. The patients were instructed to fast, their heads were shaved and their skin was prepared. The patients underwent drug susceptibility tests and crossmatch testing as prescribed by the doctor and were infused with an appropriate amount of sedatives. (ii) Psychological intervention: The preoperative nurses communicated with the patients and their families, which included a brief explanation of hypertensive cerebral hemorrhage, the surgery plan and expected results, the success rate of the operation, and the successful cases. The nurses also encouraged the patients in several ways.

(2) Intraoperative care

During the operation, the nursing staff delivered the equipment in a timely and accurate manner, monitored the vital signs of the patient, assisted the physician during hematoma removal and other procedures, and dealt with various abnormal conditions in a timely manner.

(3) Postoperative care

(i) Basic postoperative care: After the operation, the nursing staff controlled the temperature of the ward to 20–23°C and the humidity to 50–60%, opened the windows for ventilation every day, disinfected the ground, and limited the number of visitors. Before the patient regained consciousness, the nursing staff kept the patient in a supine position with the pillow removed and the head tilted to one side. After waking up, the head of the bed was raised by 30°, and the sheets were changed regularly to ensure that they were dry and clean, and the patients were turned over every 2 hours. Wipe the skin once a day, and the nursing staff cleans the mouth of the patient every day. (ii) Condition monitoring: The patients' blood pressure, pupils, state of consciousness, fluid intake and output, ECG, etc., were monitored. If a patient's pupils were dilated, consciousness was impaired, blood pressure was elevated, and breathing and pulse were abnormal, the patient was at risk of cerebral hernia, and the physicians were notified promptly. A dehydration agent was then applied to reduce intracranial pressure; the breathing of the patient was monitored, and oxygen inhalation therapy was performed concurrently. If a patient's urine output was less than 25 mL/h with an imbalance of fluid intake and output, the volume of fluid replacement was adjusted and dehydration prevention was performed concurrently. (iii) Incision care: The incision was monitored and the dressing was replaced regularly to ensure that it was dry and clean. The doctor was notified immediately if an incision seepage was found. (iv) Drainage tube care: A drainage bag was placed 20–30 cm below the puncture area of the drainage tube, and the total amount, color, and properties of the drainage fluid were observed. If there was excessive drainage fluid or it was bright red or turbid, the doctor was notified as soon as possible. The drainage tube was fixed properly to avoid putting pressure on the patient or it bending or falling off. The patients were instructed to protect the drainage tube when turning around and take care of their hygiene. (v) Nursing of complications: The postoperative nurses cleaned up the patients' oral and nasal secretions regularly to keep the airway unobstructed and prevent respiratory infections. They also wiped the patients' perineum every day, used iodophor cotton balls to disinfect their urethra, and replaced their drainage tubes regularly to prevent urinary system infection. The patients were given air mattresses, and the nurses turned them over regularly and massaged the pressured skin to prevent pressure sores. (vi) Rehabilitation care: After the patient's condition is stable, the nursing staff assists him with limb function training, and language training, and guides the patient to complete active and passive movements. (vii) Discharge guidance: Before the patients were discharged, they were advised to eat a healthy diet to prevent constipation or diarrhea, quit smoking and drinking, measure their blood pressure regularly, control their emotions, and visit the hospital for check-ups regularly.

2.3. Evaluation criteria

(1) The incidence of complications in the two groups of patients was calculated. (2) The quality-of-life scores of the patients were evaluated immediately after surgery and at discharge. The quality of life of the patients was evaluated using a short-form survey (SF-36), which consisted of the following items: physical function, emotional function, social function, and overall health. The full marks for each item were 1000 points; the higher the score, the higher the quality of life. (3) A self-made questionnaire was used to evaluate the nursing satisfaction of the two groups of patients.

2.4. Statistical methods

SPSS 23.0 was used to perform data analysis, the measurement data was expressed as mean \pm standard deviation and analyzed with a *t*-test; the count data was expressed as percentages and analyzed using a χ^2 -test, with $P < 0.05$, indicating statistical significance.

3. Results

3.1. Complication rate

As shown in **Table 1**, the complication rate in the research group was lower than that in the control group ($P < 0.05$).

Table 1. Comparison of complication rates between the two groups (n [%])

Group	Respiratory infection	Pressure sore	Urinary tract infection	Complication rate
Research group ($n = 49$)	2	0	1	3 (6.1)
Control group ($n = 49$)	4	3	3	10 (20.4)
χ^2				4.345
P				0.037

3.2. Quality-of-life scores

As shown in **Table 2**, the quality-of-life scores of the research group were higher than those of the control group at discharge ($P < 0.05$).

Table 2. Comparison of quality-of-life scores between the two groups (mean \pm standard deviation)

Group	Bodily function		Emotional function		Social function		General health	
	Immediately after surgery	Before discharge	Immediately after surgery	Before discharge	Immediately after surgery	Before discharge	Immediately after surgery	Before discharge
Research group ($n = 49$)	48.25 \pm 3.66	75.44 \pm 3.98	50.25 \pm 3.96	78.44 \pm 4.05	46.25 \pm 3.92	77.06 \pm 4.27	45.01 \pm 3.55	78.24 \pm 4.25
Control group ($n = 49$)	48.19 \pm 3.72	61.25 \pm 2.77	50.18 \pm 4.02	65.42 \pm 2.98	46.18 \pm 3.85	63.81 \pm 2.95	44.97 \pm 3.62	69.22 \pm 3.18
t	0.080	20.484	0.087	18.126	0.089	17.871	0.055	11.895
P	0.936	0.000	0.931	0.000	0.929	0.000	0.956	0.000

3.3. Nursing satisfaction

The nursing satisfaction of the research group was 95.9%, which was higher than that of the control group, which was 79.6%, ($P < 0.05$).

4. Discussion

Statistics show that the incidence of hypertensive cerebral hemorrhage in China is about 15/100,000, accounting for about 15% of all kinds of stroke diseases. Hypertensive intracerebral hemorrhage has a sudden onset, with clinical manifestations such as nausea and vomiting, headache, hemiplegia, sensory disturbance, etc., and it has high disability and mortality rates^[4]. Hypertensive cerebral hemorrhage is often treated through hematoma removal. In order to improve postoperative recovery, effective nursing intervention is required^[5].

Basic perioperative nursing measures lack complication prevention, rehabilitation nursing, humanistic care, and other elements, which are not conducive to postoperative rehabilitation of patients^[6]. With detailed perioperative nursing, common perioperative problems of hypertensive cerebral hemorrhage are analyzed, suitable nursing measures are formulated, and better preparations can be made for the surgery. Psychological intervention and other measures can also be carried out to improve the patients' health and emotional state. Besides, the patients are monitored closely and extra care is given to the incision and drainage to prevent complications in a targeted manner^[7,8]. Implementing rehabilitation nursing after the patient's condition is

stable and providing health guidance before the patient is discharged can accelerate the recovery of the patient and allow them to perform proper self-care, which in turn improves their prognosis. Detailed perioperative nursing measures are superior to basic nursing plan in that they can meet the diverse nursing needs of patients, so they should be widely practiced^[9,10].

The results of this study showed that the complication rate in the research group was lower than that in the control group, suggesting that meticulous perioperative care can reduce the complication rate. This is because, in basic nursing care, the prevention of complications was not emphasized. In detailed care, respiratory, urethral, and skin care measures were refined. Besides, the procedures were done in aseptic conditions to prevent infections, therefore reducing the incidence of complications^[11,12]. The results of this study showed that the quality-of-life scores of patients in the research group were higher than those in the control group, suggesting that meticulous perioperative care can improve the quality of life of patients. This is because, in detailed perioperative care, both physical and mental health were taken into account, allowing the diverse nursing needs of patients to be met, hence improving their quality of life^[13]. The data of this study showed that the nursing satisfaction of the patients in the research group was higher than that in the control group. The reason is that patient-centered nursing was emphasized in detailed perioperative nursing, and the comprehensive application of various nursing measures improved the physical and mental state of the patients, resulting in higher nursing satisfaction^[14-15].

5. Conclusion

In summary, detailed perioperative care for patients with hypertensive cerebral hemorrhage can reduce the complication rate, and improve quality of life and nursing satisfaction, so it should be popularized in medical institutions. However, the sample size of this study was small, and no multi-center cross-sectional data comparative analysis was conducted. Therefore, the specific plan for detailed perioperative care still needs to be refined.

Disclosure statement

The author declares no conflict of interest.

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