

EFFECT OF PRE-HOSPITAL EMERGENCY CARE IN TREATMENT AND PROGNOSIS FOR THE PATIENTS WITH ACUTE BRAIN INJURY ASSOCIATED WITH COMA

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ABSTRACT

It discusses the clinical features of the patients with acute brain injury and coma, studies the therapeutic effect on pre-hospital emergency care and analyzed the effect of nursing measures on the prognosis of patients. In this paper 1,400 patients, who had suffered acute brain injury associated with coma, were randomly selected as research objects and divided into reference group(700 cases) and experimental group(700 cases). The reference group were adopted routine nursing measures, the other group were given pre-hospital emergency nursing plan. According to the research results, the treatment effect and time-consuming of the experimental group were better than the other one. The two groups have big differences. There has statistical significance which meet $P < 0.05$. From the research results, we can see that the treatment for the patients who suffered acute brain injury with coma can be improved significantly in the processing combined with pre-hospital emergency nursing. At the same time, this can optimize the effect of prognosis and should be recommended for clinical application.

Keywords: Pre-hospital emergency care, Patients with acute brain injury associated with coma, Treatment and cure, Prognosis.

DOI: 10.19193/0393-6384_2018_6_298

Received March 30, 2017; Accepted June 20, 2018

Introduction

Traumatic brain injury (see Figure 1) is very common in present situation. The clinical symptoms of the patients are usually more serious and have a very high mortality. According to the statistic data, the mortality rate is from 30% to 50%. Therefore, the diagnosis and treatment of this disease must be seriously enough. Many factors can cause brain injury and the common types include: natural disasters, explosion, accident and high falling⁽¹⁻⁴⁾. Brain injury bring big troubles for the patients in their life, the most direct influence is to damage the central nervous system, which increasing mortality. Improving

the quality of the life of the patients draws on effective treatment and nursing.

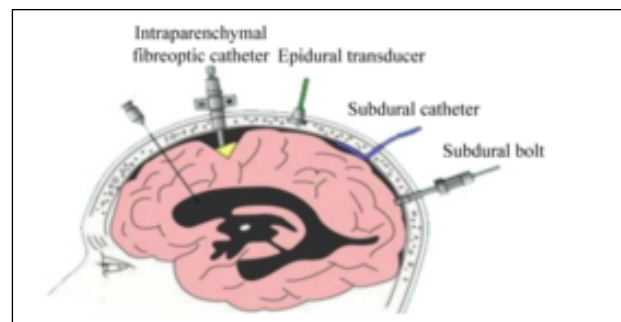


Figure 1: Anatomic map of the brain injury.

The treatment and pre-hospital emergency care for the patients with acute brain injury associated with coma is very critical, which pre-hospital nursing can greatly enhance pre-hospital response time. Through reasonable and effective nursing measures, it can improve the clinical symptoms of the patients to give sufficient time for treatment, which in some extent can enhance the clinical efficacy and improve the survival rate of the patients. This study describes the countermeasures of pre-hospital emergency nursing and probe into the cure and the effects of prognosis for the patients with acute brain injury. The specific measures are as follows:

Methods

General data

In this research 1,400 patients, who had suffered acute brain injury associated with coma from February 2013 to March 2016, were randomly selected as research objects and divided into reference group (700 people) and experimental group (700 people). Of the reference group, there are 450 males and 250 females whose age from 16 to 64, average age at (33.7±2.4). The other group have 500 males and 200 females whose age between 14 and 62, average age at (34.0±2.2). There are no significant differences between these two groups due to P> 0.05.

Method

Reference group: Doing routine nursing measures, checking on blood pressure and pulse for the patients, putting a dressing and supplying oxygen to ensure that patients breathe smoothly, opening venous access and doing preparation before surgery according to doctor’s order in the course of treatment.

Experimental group: The patients were given pre-hospital emergency nursing plan, the specific operations are as follow: first, impose on the patients with rapid diagnosis, score according to the GCS coma standard to clarify coma grade; second, ensure the patients breathe smoothly and keep venous access, supply oxygen for the patients by trachea intubation (see Figure 2). Keeping venous channels open can make the patient’s vein open and using dehydrant in the early stage; third, pay attention to vital sign of the patient by checking papillary, pulse, blood pressure, blood oxygen saturation so as to provide reference to clinical treatment;

fourth, everything have is do in accordance with reference and must be under the precondition of pre-start mode. It mainly covers the cardiopulmonary resuscitation, wound care, antishock, head CT examination and prepares for everything before surgery then rescues patients in the operating room by green channel⁽⁵⁻⁷⁾.



Figure 2: Diagram of trachea intubation.

Observing index

Observe efficiency, evaluate if recovery, valid or invalid, compare the time-consuming from answering emergency call to processing for the 2 groups.

Statistics Method

In this research select new SPSS19.0 statistics software package. use enumeration data in n, %, Chi-square test, measurement data in mean±, and average ($\bar{x}\pm s$). There has statistically significance (P<0.05) which using t to test.

Results

Comparison of the medical treatment for the 2 group patients

From the outcomes of the data analysis, the effective rate is 93% for the experimental group and 86% for the reference group. The former has big advantages compared to the later, meet the P<0.05, which is statistically significant. (specific data refer to Table 1).

Group	Case	Cure	Valid	Vain	Total efficiency (%)
Reference group	700	420(60)	180(26)	100(14)	600(86)
experimental group	700	450(64)	190(27)	60(9)	640(93)
χ^2					11.290,3
P					0.000,7

Table 1: Comparison of the treatment effect of the groups (n, %).

Time-consuming from answering emergency call to processing for the 2 groups

Patients from the experimental group start their work after answering the emergency call according to the data. The time-consuming was less than the others, specific data is to see Table 2.

Group	Case	To trachea intubation	To head CT examination	To operating room
Reference group	700	40.6±1.2	45.5±1.1	55.1±0.8
experimental group	700	30.4±0.8	30.3±0.9	45.1±0.6
<i>t</i>		106.6742	282.9547	264.5751
<i>P</i>		0.000,0	0.000,0	0.000,0

Table 2: Time-consuming of from answering emergency call to processing for the 2 groups ($\bar{x}\pm s$)

Discussion

The condition of the patients with acute brain injury and coma is very serious. It belongs to severe brain injury and develops rapidly. Higher mortality in pre-hospital treatment and relatively more sequel, effective treatment and nursing must be given to patients early to reduce mortality and disability, the more important is to reduce complication. Therefore, pre-hospital emergency nursing play a very important role in clinical treatment which cannot be ignored, improve the effect of the prognosis and enhance the clinical effect⁽⁸⁻¹⁰⁾. Pre-hospital emergency nursing is relatively comprehensive and complete nursing plan. Nursing person need to grasp the core part in the nursing job which pay attention to changes of the patients constantly, use comparative emergency measures and respectively record the vital sign such as the changes of pupil, blood pressure etc.

Pre-hospital emergency nursing occupy a key role in treatment so that high quality of nursing personnel should be required. Psychological quality is the essential elements. At the same time, professional first aid and nursing knowledge, quick thinking are required to judge tentatively condition of the patient and give corresponding emergency measures. In addition, nursing personnel should have a good cooperation with the doctor, enhance nursing to help doctor work better, win more rescue time.

In this research 1400 patients were divided into 2 groups. According to the data, the effective rate is 93% the experimental group and 86% for the reference one. The former has obvious advantages

on the later which has significant differences ($P<0.5$). In addition, the experimental group immediately carry out work after answering the emergency call and less time-consuming than the other group. This shows that the experimental group has advantages on pre-hospital emergency measures to ensure best treatment and nursing for the patients in short time and improve the quality of their life.

Nursing personnel need to conduct comprehensive care in pre-hospital emergency nursing, the most important part is to dress head wound (see Figure 3). By doing this, it can prevent the patients from wound infection and hemorrhagic shock. The head should not be vibrated when the patient was admitted to hospital. Assuming if something in the wound, nursing personnel must wait for the doctor to deal with injury, not to treat by herself because it is easy to increase the condition of the patient. For the patient with acute brain injury and coma, the obvious clinical symptom is that respiratory tract is not smooth. The factor is associated with secreta⁽¹¹⁻¹³⁾.

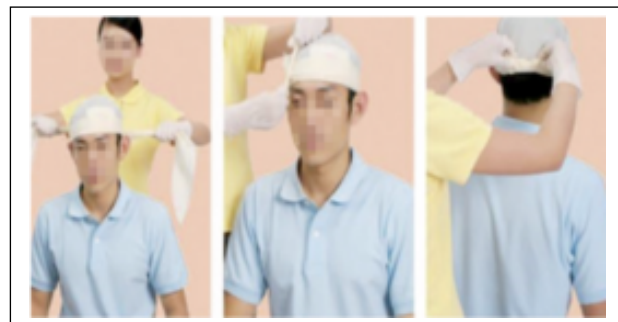


Figure 3: Diagram of dressing head wound.

In addition, patients with tongue falling have difficulty in breathing. So nurses must focus on this link of nursing work to remove oro-nasal secretions effectively and help oxygen inhalation. Nursing staff should pay close attention to patient's vital signs, if there anything abnormal, contact doctor immediately and help them carry out the treatment.

This study adopted data analysis to explain the treatment of the patients in the research on the effects of clinical treatment and prognosis in pre-hospital emergency nursing for the patients with acute brain injury and coma. According to the data, this study gained objective value of the clinical research and maintained correspondence with view of Hazra, M., et al, Ofori-Kwakye, K., et al⁽¹⁴⁻¹⁵⁾. It's enough to explain that this research has big application value. We suggest expanding applied range in clinical applications to promote survival rate of the patients⁽¹⁶⁻¹⁷⁾.

In conclusion, Pre-hospital emergency nursing can enhance the effect of clinical treatment, improve the life quality and reduce mortality and disability of the patient. This research stated the clinical symptoms of the patients with acute brain injury and coma, discussed specific implement countermeasure in processing and probed into the effects of clinical treatment and prognosis for the patients. In conclusion, patients with acute brain injury and coma should be paid enough attention which carry out emergency treatment plan to raise survival rate and reduce mortality.

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