

Clinical Effect of Emergency Gastroscopy on Acute Bleeding of Gastric Cancer

Li Qi*, Cong Wang, Jun Wang

Department of Gastroenterology, Binzhou People's Hospital, No.515 Huanghe 7 Road, Binzhou City 256600, Shandong Provinces, China

Abstract: Objective: To explore the clinical effect of applying emergency gastroscopy in the treatment of patients with acute bleeding of gastric cancer. **Methods:** A total of 80 patients with upper gastrointestinal bleeding caused by gastric cancer who were admitted in our hospital from December 2017 to December 2018 were selected and recruited. These patients were divided into two groups, namely the control group and experimental group by random number method, and were given conventional drug treatment and emergency gastroscopy treatment respectively. There were 40 patients in each group. The treatment effect and complication rate of the patients in each group were compared. **Results:** The rate of efficacy of emergency gastroscopy treatment in patients of the experimental group was 95.00%, whereas the rate of efficacy of conventional drug treatment in patients of the control group was 82.50%. The efficacy rate in the experimental group was higher, and the data were significantly different after statistical comparison. Before treatment, the Karnofsky functional status scores of the patients in both control group and experimental group were not significantly different. After treatment, the patients' scores were all improved. Compared with the control group, the experimental group had a higher degree of improvement, and the effect was more significant. There was a statistically significant difference in data between the two groups ($P < 0.05$). **Conclusion:** Gastroscopy treatment of patients with acute gastrointestinal bleeding caused by gastric cancer can effectively shorten the bleeding time of patients, reduce the incidence of postoperative complications, and have positive impact for the prognosis of patients.

Keywords: emergency gastroscopy; acute bleeding from

gastric cancer; complications; clinical effect

Publication date: July, 2019

Publication online: 10 July 2019

***Corresponding author:** Qi Li, 649043356@qq.com

Acute bleeding of gastric cancer refers to when the bleeding volume of gastric cancer patients is more than 800 mL within a short period of time, and there are signs of peripheral circulation. The patients with acute gastrointestinal bleeding caused by gastric cancer are affected by high volume of bleeding, difficulty in recovering from the disease, and rapid development and progression of the disease. Therefore, how to quickly and effectively stop bleeding has become the main topics on saving patients' lives. In view of this, this study applied the gastroscopy treatment method and explored its effect on patient application.

1 Data analysis and methods

1.1 Baseline characteristics

A total of 80 patients with upper gastrointestinal bleeding caused by gastric cancer who were admitted in our hospital from December 2017 to December 2018 were selected and recruited. These patients were divided into two groups, namely the control group and experimental group by random number method. The patients in the control group and experimental groups were given conventional drug treatment and emergency gastroscopy treatment respectively. There were 40 patients in each group. Among these patients, there were 43 male patients and 37 female patients. The oldest patient was 77 years old, while the youngest was 40 years old, and the average age was 56.45 ± 3.23 years. There was no significant difference in the

baseline characteristics between the two groups of patients ($P > 0.05$).

Inclusion criteria: All patients met the relevant diagnostic criteria for staging and treatment of gastric cancer formulated by The Italian Research Group for Gastric Cancer (GIRCG) in 2015. The patient was diagnosed using a pathological tissue biopsy and the patient had complete clinical data. Informed consent was obtained from all patients.

Exclusion criteria: The patient who had more than two types of malignant tumors, abnormal coagulation function, and comorbidities such as severe heart, liver, and kidney disease were excluded from the present study.

1.2 Research Methods

After admission to the hospital, the patients of the two groups were given routine treatments such as fluid replacement, acid production and blood transfusion, followed by hemostatic intervention.

On this basis, the patients in the control group were given conventional drug treatment, which mainly included 1-2 mg/d of thrombin that was administered by intramuscular injection, 12-24 U/h pituitary lutein, 40-80 ml/ 12 h omeprazole that was administered by intravenous route. Attention is paid to the actual situation of the patient to determine the selective use of the drug and the overall situation of the drug.

Patients in the experimental group were given emergency gastroscopy to determine the bleeding site of the patient, and then norepinephrine saline at a concentration of 1:500 was applied. The saline was sprayed locally and evenly at the distance of about 200 mm. Three to five injection points were given to patients with submucosal injections, and the dose was controlled to about 2 ml. When the patient's bleeding volume was reduced or the bleeding stopped, observation was performed for about 5 minutes. If the patient has severe bleeding, electrocoagulation and titanium clips can be given to the patient to stop bleeding. If the patient does not have a bleeding condition, the lesion was rinsed with 0.9% sodium chloride solution before the end of the treatment.

1.3 Observation indicators

The time for hemostasis, rate of rebleeding and reoperation rate were observed in the two groups of

patients, and the treatment effect and the quality of life of the patients were compared.

Clinical effect: According to the postoperative recovery of the patient, the clinical effect was divided into four indexes comprising of strong effect, marked effect, remission and ineffectiveness. The total efficacy rate is the total probability of excluding invalidation.

The Karnofsky performance status score was used to evaluate the quality of life of patients. The Karnofsky performance status scale includes scores such as normal physical status, no symptoms and signs, 100 points for those who can conduct normal activities, minor symptoms and signs, 90 points for those who can still perform normal activities, some symptoms or signs, 80 points for those who can take care of themselves but cannot maintain normal life and work, 70 points for those who can mostly take care of themselves, but occasionally need help from others, 60 points for those who often need assistance from others to take care of themselves, 50 points for those who cannot take care of themselves and need special care and help, and the disease is more serious. A higher score in Karnofsky performance status indicates the better health and higher level of tolerability towards the side effects of the treatment, indicating that the patients are more likely to receive thorough treatment. In other words, the lower the score, the worse the health status^[1].

1.4 Statistical analysis

Statistical Package for Social Sciences (SPSS), version 20, was used as a tool to perform statistical analysis on the data in the current study. The comparison of the quantitative data ($x \pm s$) were conducted using t test, whereas the comparison of the categorical data ($n, \%$) were conducted using χ^2 . When the results showed $P < 0.05$, it indicated that the difference was of statistical significance between groups^[2].

2 Results

2.1 Efficacy of treatment

The efficacy rate of the patients in the experimental group was 95.00%, whereas the efficacy rate of the patients in the control group was 82.50%. The results showed statistically significant difference between the two groups are significantly different, as detailed in Table 1.

Table 1. Comparison of treatment efficacy between control group and experimental group [n (%)]

Group	Strong effect	Marked effect	Remission	Ineffectiveness	Efficacy rate
Experimental group(n=40)	20(50.00)	10(25.00)	8(20.00)	2(5.00)	38(95.00)
Control group(n=40)	10(25.00)	13(32.50)	10(25.00)	7(17.50)	33(82.50)
χ^2					9.450
P					<0.05

2.2 Comparison of quality of life scores

Before the treatment, the Karnofsky performance status scores in patients between the control group and experimental group were not significantly different. After

the treatment, the patient scores were improved. Compared with the control group, the experimental group had a higher degree of improvement and a more significant effect. There were statistical differences in data between the two groups ($P<0.05$), as detailed Table 2.

Table 2. Karnofsky performance status scores of patients in control group and experimental group(x±s)

Group	Before the treatment	After the treatment
Experimental group(n=40)	56.44±2.30	89.45±3.42
Control group(n=40)	57.05±2.94	77.45±4.05
t	0.395	10.294
P	>0.05	<0.05

3 Discussion

Affected by the development and advancement of the current society, dietary habits of many people change and work pressure becomes greater. The number and age of patients who are infected by *Helicobacter pylori* makes the incidence of gastric cancer to increase and the age structure of the infected individuals to gradually appear younger. Gastric cancer patients are prone to acute upper digestive bleeding, which is also an important cause of death. Gastric cancer bleeding mainly refers to the volume of bleeding exceeding 800 ml in gastric cancer patients within a short period of time, and signs of peripheral circulation are also present^[3]. The patients who are afflicted with acute gastrointestinal bleeding caused by gastric cancer are also affected by problems such as high volume of bleeding, difficulty in recovering from the disease, and rapid development and progression of the disease. Therefore, how to quickly and effectively stop bleeding has become the main topic on saving the patients' lives. However, taking the factors such as the special anatomical position of the stomach into account, the gastric mucosa will be affected by physical and chemical factors. Since there are more gastric blood vessels in the stomach wherein

the blood flow is of high volume, the newly formed blood vessels in the stomach may appear more apparent. Compared with other lung cancer patients who suffer from bleeding, bleeding from gastric cancer patients would engender more bleeding and it is more dangerous to this group of patients^[4]. The acute bleeding from gastric cancer happens at the gastric body tumors and undifferentiated tumors. The incidence of bleeding is higher in older patients. The main factors leading to this situation may be the specific anatomical location, and adequate blood supply to the patient's body. The poorly differentiated cancer is highly malignant and grows fast, which causes erosion of mucosal blood vessels. At the same time, the lack of blood supply to the patient causes necrosis and shedding of the surface tissue, leading to cancerous collapse. The cancerous ulcer would become worse, which in turn aggravate the bleeding problem.

Treatment of patients with gastrointestinal bleeding caused by gastric cancer by using drug therapies is considered more conservative. Patients tend to have strong resistance to drugs. In this case, clinically, pituitary hormone, and omeprazole, somatostatin and the like are applied. With the continuous development and improvement of hemostatic drugs, the clinical treatment effect has also improved. Gastroscopy is a

commonly used method in clinical practice, which mainly includes laser treatment, electrocoagulation treatment, local drug treatment coupled with microwave treatment, hemostatic treatment using metal clip, etc^[5]. In comparison with conservative drug treatment, this operation method is not only simpler, but also has a higher hemostasis rate and a corresponding lower rebleeding rate. A metal hemostatic clamp under gastroscopy is used for hemostasis treatment. It is similar to vascular ligation and hemostasis in surgical treatment, and can be considered as a physical mechanical therapy. In the process of active bleeding, its corresponding hemostatic effect is significant, which can effectively prevent the occurrence of rebleeding. When the gastroscopy method is applied in the present study, the results show that the efficacy rate of patients in the experimental group was 95.00%, and the efficacy rate of patients in the control group was 82.50%. The efficacy rate of the experimental group was higher, and the data were significantly different. Before the treatment, there was no significant difference in the Karnofsky performance status score. After the treatment, the patient scores were improved. Compared with the control group, the experimental group had a higher degree of improvement and a more significant effect. There was a statistically significant difference in data between the control group and experimental group ($P<0.05$).

In patients with upper gastrointestinal bleeding caused by gastric cancer, most of them are accompanied by inflammatory reactions of varying degrees, which will lead to aggravation of the patient's condition, increase the degree of lesions in the patient, cause difficulty in hemostasis and secondary bleeding, and the treatment of patients causes serious effects^[6]. After giving the patient hemostatic treatment, the patient's body inflammation can be reduced. In addition, the endoscopic treatment can effectively suppress the inflammatory response, which is also the main factor to achieve a good one-time hemostatic effect. Although the

number of patients undergoing gastroscopy hemostasis treatment has increased, the number of patients who choose traditional medications is still more than that of gastroscopy. The reasons for this problem may be twofold. First, more physicians are more inclined to selecting drug treatment as the first choice, and with the continuous improvement of hemostatic drugs in the context of clinical development, the efficacy of these drugs have also been improved. Secondly, patients with gastroscopy and hemorrhage are associated with poor tolerability and severe disease development. Hence, meticulous selection of gastroscopy is required^[7].

In summary, the application of gastroscopy to patients with acute gastrointestinal bleeding caused by gastric cancer can effectively shorten the bleeding time of patients, reduce the incidence of postoperative complications, and have positive significance for the prognosis of patients.

References

- [1] Zheng CF. Clinical effect and safety analysis of emergency gastroscopy for acute bleeding of gastric cancer[J]. Journal of Practical Cancer, 2017, 32(4): 638-640.
- [2] Zhang JK. Therapeutic effect of emergency gastroscopy on acute gastrointestinal bleeding caused by gastric cancer[J]. Modern Practical Medicine, 2018,30(9): 1164-1166.
- [3] Yu D. Analysis of etiology and diagnosis of 189 cases of acute upper gastrointestinal bleeding [D]. Xinjiang Medical University, 2017.
- [4] Zhang RH, Chen XJ, Dai B. Clinical study of emergency gastroscopy in the diagnosis and treatment of upper gastrointestinal bleeding in the elderly patients[J]. Chinese Medicine Guide, 2015, 13(1): 112-113.
- [5] Feng DP, Luo SM. Analysis of clinical effect of emergency gastroscopy and gastroscopy on acute upper gastrointestinal bleeding[J]. China Practical Medicine, 2015, 10(21): 56-58.
- [6] Li YX. Clinical study of emergency gastroscopy for upper gastrointestinal bleeding in the elderly[J]. Studies of Trace Elements and Health, 2015, 32(6): 4-5.
- [7] Xu SJ. Clinical effect of emergency gastroscopy on patients with upper gastrointestinal bleeding[J]. Medical Equipment, 2019, 32(6): 96-97.