Analysis on Nursing Effect of Octreotide on Acute Pancreatitis

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Abstract: To explore the clinical value of octreotide therapy and nursing intervention in patients with acute pancreatitis. 120 patients with acute pancreatitis admitted to the Department of Digestive Medicine from June 2018 to August 2019 were selected. Two groups of patients were treated with octreotide. They were randomly divided into observation group (intensive nursing intervention) and control group (routine nursing) with 60 patients in each group. Compared with the control group (81.67%), the total effective rate (93.33%) was higher in the observation group (P<0.05%); After treatment, C reactive protein, lactate dehydrogenase, WBC and hemodiastase of patients in the observation group were better than those in the control group (P<0.05); compared with the control group (18.33%), the occurrence rate of hypoglycemia in the observation group (6.67%) was lower (P<0.05%); At the same time, the Nursing Satisfaction Scale of the observation group (95.00%) was higher than that of the control group (78.33%), (P<0.05%). Patients with acute pancreatitis treated with octreotide and strengthened nursing intervention can obtain more obvious therapeutic effect, so that the clinical symptoms and related laboratory indicators of patients have been significantly improved. At the same time, the clinical value was significant with a lower occurrence rate of hypoglycemia and higher nursing satisfaction scale.

Keywords: Octreotide, acute pancreatitis, nursing effect, hypoglycemia, nursing satisfaction scale
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For acute pancreatitis, the main cause of the disease is the activation of trypsin, which produces pancreatic tissue edema, bleeding, necrosis and a series of inflammatory reactions. Under the influence of improving people's living standard, the diet structure and living structure have been changed gradually, which leads to the obvious increase of the morbidity of pancreatitis [1,2]. Acute pancreatitis has a faster development rate and a higher risk of complications. If the patients with acute pancreatitis cannot be treated effectively and timely, it will continuously deteriorate the patient's condition and causes serious complications, such as multiple organ dysfunction, systemic inflammatory response and peritonitis. If serious, it will threaten the life and health of patients, and increase the difficulty of clinical treatment and nursing [3,4]. Therefore, in order to promote the rapid recovery of patients' disease, it is a very key content to strengthen the active exploration of effective treatment and nursing methods. Research shows that most patients are more suitable for conservative therapeutic method. Patients with mild acute pancreatitis can be effectively treated to eliminate their pancreatic edema, eliminate or significantly alleviate the clinical symptoms of patients. Patients do not need surgical treatment [5,6]. Although severe patients have a more complex state of illness, it can be effectively divided according to the different conditions and receive comprehensive treatment through a variety of programs. Through comprehensive drug therapy, it can effectively control the progress of the patient's condition, reduce the injury of stress response to human body, avoid surgical treatment of patients, and thus promote the significant reduction of the risk of treatment [7,8]. This paper mainly explored the clinical value of octreotide therapy and nursing intervention in patients with acute pancreatitis.

MATERIALS AND METHODS

General data

120 patients with acute pancreatitis admitted to the Department of Digestive Medicine from

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June 2018 to August 2019 were selected and were randomly divided into observation group and control group with 60 patients in each group. There were 35 male cases and 25 female cases in the observation group, with an average age of (44.28±8.52). There were 37 male cases and 23 females' cases in the control group, with an average age of (46.32±7.16). There was no difference in the general data between groups (P>0.05) and comparison can be conducted. The selected cases of the study were approved by the Ethics Committee, with the informed consent of the patient or family member. Patients who did not cooperate with the clinical treatment or with major organ dysfunction, neurological disorders, severe infections, drug allergies, pregnancy and lactation were excluded.

Methods

Therapeutic methods

All patients received routine treatment in the Department of Digestive Medicine. According to the specific condition of the patient, the treatment plan was reasonably determined. (1) Symptomatic support therapy for patients Patients were told to perform routine fasting to promote the stomach to maintain a state of continuous decompression and eat after abdominal distension, abdominal pain and other related clinical symptoms disappeared; The patients were treated with oxygen inhalation, and the vital signs related indexes and oxygen saturation were observed closely. (2) Proton pump inhibitors reduced gastric acid secretion; The patients were treated with somatostatin to reduce the secretion of pancreatic juice and pancreatin. Ulinastatin 20U was added to 500 ml glucose injection. After the solution was fully diluted, the patients were treated with intravenous drip twice a day for 2 weeks. (3) If the patient suffered from mild acute pancreatitis, metronidazole, fluoroquinolones and other related antibiotics could be used for anti-infection treatment; If the patient suffered from severe acute pancreatitis, targeted antibiotic therapy was required for the patient. In addition to routine treatment, octreotide therapy was performed in the observation group. 0.6mg/d octreotide was diluted by normal saline, and sustained intravenous injection was carried out by micro vein pump 2 times a day. The pump injection speed was 25 ug/hour. Two groups of patients were treated continuously for one course, (10 days).

Nursing methods

While two groups of patients received the above treatment, the control group received routine nursing and the nursing intervention of observation group was strengthened. (1) Psychological nursing intervention: Strengthen positive communication and communication with patients and establish good nurse-patient relationship; Fully understand the psychological characteristics and inner needs of patients, accurately evaluate the coping ability and psychological tolerance of patients, inform patients of therapeutic methods and treatment matters needing attention, so that patients can actively cooperate with various treatment and nursing work. The psychological problems existing in patients were explained and analyzed to guide patients to establish the correct cognitive model, so that patients maintain a positive and optimistic attitude to face their own diseases, so as to effectively alleviate the patient's bad emotions, such as fear, anxiety, tension, etc., and to avoid adverse effects on the body. Successful cases of clinical treatment to the patients were listed to encourage the patients in body and language, and ask the family members of the patients to care for the patients, so that the patients can feel the warmth from the family, so as to significantly improve their treatment compliance and enthusiasm. (2) Prevention of hypoglycemia. The use of octreotide has become an important component in the treatment of acute pancreatitis, but octreotide micropumps continued to pump into the circulatory system in vivo to inhibit glucagon secretion, leading to hypoglycemia. If hypoglycemia appeared without timely identification and treatment, it can cause patients coma, or even threaten life. Therefore, the prevention of hypoglycemia in octreotide applications has become a top priority. In the rescue of patients with hypoglycemia, it should improve the predictability and take predictive nursing measures to prevent the irreversible damage caused by hypoglycemia to the body. In the course of routine clinical treatment of acute

pancreatitis, two venous pathways were established: a continuous pump of octreotide; one infusion of other therapeutic fluids, such as: anti-infection, improved circulation and nutritional support, etc. Because patients with acute pancreatitis needed to avoid food or water in the early stage of treatment, the nutritional mixture was calculated according to the patient's body weight and became the main part of the fluid for the patient. In the daytime, only octreotide was injected intravenously at night, so it became a period of high incidence of hypoglycemia. During the clinical nursing work, the nurses adjusted the order of intravenous fluid reasonably and established the third vein pathway. While ensuring the injection of octreotide, it should maintain the supply of nutritional energy mixture for 24h, reduce or even prevent the occurrence of hypoglycemia, and reduce the injury caused by hypoglycemia to the body. (3) Tube nursing intervention. Before fasting, gastrointestinal decompression and other related treatment, nursing staff needed to explain the purpose and method of treatment to patients in detail, so that patients can better cooperate with each operation. In the process of gastrointestinal decompression, it was necessary to properly fix the stomach tube, avoid the occurrence of problems such as prolapse, blockage, compression and breaking, accurately record the volume of drainage, at the same time closely observe the color, nature and quantity of drainage fluid, check the effectiveness of attraction in real time. If there was a clogging situation, isosmotic saline can be used to effectively flush if necessary. In addition, the liquid in the negative pressure device should be poured out timely and the negative pressure device should be replaced every day. At the same time, the nursing staff need to carry out oral nursing to the patients 1 to 2 times a day to keep the patient's mouth clean and hygienic. (4) Medication nursing intervention. Nursing staff should have a comprehensive understanding of the compatibility taboos, dosage and administration methods of drugs. Octreotide is a cyclic compound which is synthetic and should be placed in an environment of 2 to 8℃, stored in a light-free environment, and used separately. In addition, octreotide has a relatively short half-life, requiring continuous and uninterrupted administration of the patient. The interval between the two dressings should be less than 1 minute; Before the patient was given medication, the nursing staff needed to explain to the patient and the family members the possible adverse reactions and the effect of the drugs. Patients were told to strictly follow the doctor's instructions for correct and rational use of drugs, pay attention to the use of accurate doses, so that the effective peak of drugs can be guaranteed. At the same time, the nursing staff should closely observe the effect and response of patients after medication, and timely report the relevant situation to doctors. (5) Catering nursing intervention. In the process of fasting, the patients should be given some nutritional support, and the adequate nutrition should be supplemented to the patients by intravenous infusion. When the clinical symptoms of patients were obviously improved, and the gastrointestinal function and hematuria amylase were recovered to a reasonable range, patients can be told to eat fluid food, such as rice soup, water, and so on, and then gradually transition to semi-fluid semi-soft food according to the patient's condition. Patients should eat more light, low-fat carbohydrates, and adhere to "eating less and more meals" and should not overeat. (6) Disease observation During treatment, nursing staff need to closely monitor the patient's vital signs and changes in the condition, and do a good job of recording. If the patient's body temperature was high, the fever symptom and type of the patient should be carefully observed. If the body temperature was higher than 39℃, the patient needed to be given antipyretic treatment, combined with physical cooling method. If the patients sweated a large amount, nursing staff should change clothes and bedding in time and keep them warm work to avoid cold. (7) Adverse reaction nursing. If the patient had gastrointestinal reactions, such as anorexia, diarrhea, abdominal distension, vomiting, nausea, etc., the nursing staff should listen carefully to the patient's main complaint, carefully observe the adverse reactions, and give timely feedback to the physician to carry out targeted treatment for the patient.

Observation index

The treatment effect, related index

improvement, hypoglycemia occurrence and nursing satisfaction scale were compared between the two groups. The related indexes mainly included C reactive protein, lactate dehydrogenase, WBC and hemodiastase levels.

Efficacy evaluation standard [9,10]

After 1 week of treatment, the effect was obvious when the symptoms of abdominal distension and abdominal pain were eliminated, and the urine amylase and serum amylase returned to normal range; After 10 days of treatment, the effect was obvious when the symptoms of abdominal distension and abdominal pain were eliminated, and the urine amylase and serum amylase returned to normal range; It was ineffective if the patient's clinical symptoms were not improved and the disease conditions were aggregated after the treatment.

Statistical analysis

SPSS22.0 statistical software was used. It was expressed with "±s" and "[n (%)]", and tested with "t" and "x2". P<0.05 indicated the difference was statistically significant. $\bar{x}$

RESULTS

Comparison of therapeutic effects:

The observation group was higher than the control group (P<0.05), see Table 1.

Table 1
Comparison of Total Treatment Efficiency [n (%)]

Group	Number of cases	Conspicuous effect	Effective	Ineffective	Total effective rate
Observation group	60	26	30	4	93.33% (56/60)
Control group	60	22	27	11	81.67% (49/60)
x^2					13.012
P					<0.05

Comparison of relevant indicators After treatment, C reactive protein, lactate dehydrogenase, WBC and hemodiastase of the observation group were better than those in the control group (P<0.05);

Refer to Table 2.

Table 2
Comparison of Relevant Indicators (±s) $\bar{x}$

Inspection index		Observation group (n=60)	Control group (n=60)	t	P
C-reactive protein (g/L)	Before treatment	50.37±8.52	49.54±7.24	2.251	>0.05
	After treatment	9.14±2.04	20.26±6.34	11.019	<0.05
Lactate dehydrogenase (U/L)	Before treatment	122.34±12.34	126.74±20.17	0.374	>0.05
	After treatment	147.51±10.17	135.34±18.64	15.168	<0.05
WBC（×109/L）	Before treatment	13.64±5.24	14.45±4.52	1.201	>0.05
	After treatment	11.47±2.39	13.52±2.47	13.062	<0.05
Hemodiastase (U/L)	Before treatment	1415.15±152.47	1395.47±162.33	2.471	>0.05
	After treatment	435.67±90.24	658.34±102.21	10.069	<0.05

Comparison of hypoglycemia occurrence rate: The observation group was lower than the control group (P<0.05),

see Table 3.

Table 3
Comparison of Hypoglycemia Occurrence rate [n (%)]

Group	Number of cases	Cases of hypoglycemia	Hypoglycemia occurrence rate
Observation group	60	3	6.67% (4/60)
Control group	60	10	18.33% (11/60)
x2			12.018
P			<0.05

Comparison of Nursing Satisfaction Scale

The observation group was higher than the control group (P<0.05), see Table 4.

Table 4
Comparison of Nursing Satisfaction Scale [n (%)]

Group	Number of cases	Very satisfied	Satisfied	Unsatisfied	Overall satisfaction
Observation group	60	31	26	3	95.00% (57/60)
Control group	60	21	26	13	78.33% (47/60)
x2					16.315
P					<0.05

DISCUSSIONS

Acute pancreatitis, an acute abdomen, has a high clinical morbidity. Typical clinical symptoms of the disease are pancreatic necrosis, hemorrhage and edema. There is very complex pathogenesis of the disease, such as hyperlipidemia, infection, surgical injury, overeating, alcoholism, biliary system diseases and other

related factors. All of these factors are closely related to the occurrence of the disease. Acute pancreatitis has a faster development rate. If the patients with acute pancreatitis cannot be treated effectively and timely, it will continuously deteriorate the patient's condition [11,12]. Therefore, in order to promote the rapid recovery of patients' disease, it is a very key content to strengthen the active exploration of effective therapeutic methods. Most patients with acute pancreatitis are treated with conservative methods of internal medicine. Patients with mild acute pancreatitis mainly show pancreatic edema with a good prognosis and do not need surgical treatment. Patients with severe acute pancreatitis can be classified into different stages and then treated with specific treatment regardless of dangerous and complicated conditions. In the acute response period, patients will develop systemic inflammatory stress response syndrome, leading to systemic multiple organ failure, and even death. If the patients with acute pancreatitis cannot be treated effectively and timely, it will continuously deteriorate the patient's condition and causes serious complications, such as multiple organ dysfunction, systemic inflammatory response and peritonitis. If serious, it will threaten the life and health of patients, and increase the difficulty of clinical treatment and nursing [13,14]. Therefore, early, effective, timely treatment and nursing for patients must be strengthened. In the process of conservative treatment in internal medicine, the patients are mainly treated with symptomatic support, and the continuous gastrointestinal decompression is carried out. By fasting, the pancreatic secretion of the patients is reduced, and the symptoms of abdominal distension in the patients are effectively alleviated. When the defecate is unobstructed and normal bowel sound is recovered, the patient can gradually transition from fluid diet to normal diet, so that the barrier function of gastrointestinal mucosa can be effectively restored. Oxygen therapy for patients can effectively maintain the function of organs and play an anti-shock role; Active supplementation of blood volume can avoid major organ failure. Antibiotic treatment can effectively control the occurrence of severe infections [15,16]. The commonly used therapeutic drug in the treatment of acute pancreatitis is octreotide. Octreotide is an octopeptide ring compound with effect similar to that of somatostatin. With a lasting effect, and a longer half-life, it can realize the effective inhibition of insulin secretion. In the treatment of acute pancreatitis, the pharmacological effects of octreotide include: it can well inhibit the pathological secretion of gastrointestinal tract and pancreatic endocrine hormones, and maintain the stability of pH in vivo; it can relax the sphincter and facilitate the discharge of pancreatic juice; it can inhibit the release of platelet activating factor and improve the clinical symptoms of patients; it can inhibit the secretion of pancreas and digestive fluid in stomach [17]. In addition, omeprazole is also commonly used drug in clinical treatment. Omeprazole is a proton pump inhibitor with a relatively short half-life. The body is easy to absorb the drug. After the action with H^+-K^+-ATP enzyme, it can reduce the activity, inhibit the secretion of gastric acid, effectively inhibit the high secretion of islet and significantly reduce pancreatic exocrine. At the same time, omeprazole is beneficial to the expression of pro-apoptotic factor Bax. It can eliminate the necrotic tissue and significantly improve the patient's condition. With high safety, omeprazole will not lead to serious adverse reactions and symptoms. It has significant clinical value in treating acute pancreatitis [18]. Studies have shown that the combination of omeprazole and octreotide can effectively inhibit gastric acid secretion in the treatment of acute pancreatitis without the adverse reactions. It can not only effectively guarantee the clinical treatment effect, but also guarantee the treatment safety of patients. Therefore, the above-mentioned combination of drug use methods have certain effectiveness, reliability and safety [19].

The body's largest immune organ is the intestinal tract. The early stress response of acute pancreatitis will reduce the intestinal mucosal perfusion, make the intestinal tract in the state of hypoxia and ischemia, increase mucosal permeability, lead to villi cell shedding or necrosis, and thus destroy the barrier function of intestinal mucosa, so that intestinal endotoxin and bacteria are displaced. At the same time, intestinal lymphocytes will release a

large number of inflammatory mediators and lead to systemic inflammatory response syndrome. The occurrence of systemic inflammatory response syndrome will aggravate the damage of intestinal mucosal barrier function. Early enteral nutrition of the patient can protect the intestinal barrier effectively. The nutrients in the intestine will stimulate and nourish intestinal mucosal cells, promote the repair and growth of intestinal mucosal cells, maintain the integrity of intestinal mucosa, and regulate the inflammatory response. Even if the amount of enteral nutrition is small, it will also play a protective role on the intestinal barrier. Excessive pro-inflammatory response in the early stage of severe acute pancreatitis inhibits immune function and is characterized by altered T lymphocyte subsets. Immunosuppression can aggravate the patient's illness condition. An overall response to immunosuppression is mainly $CD3^+TC$ reduction. An important marker of immunosuppression is the decrease of $CD4^+/CD8^+$ ratio. Early enteral nutrition therapy can better differentiate immune cells and promote their development and maturation [20].

At the present stage, under the influence of the continuous development of modern medical technology, evidence-based nursing mode has been widely used during the nursing period of various diseases. Evidence-based nursing is mainly evidence-oriented, which can promote the obvious improvement of the prognosis of patients and slow down the failure rate of important organs, so as to realize the effective treatment of patients' diseases. In the course of treatment of patients with acute pancreatitis, clinical nursing intervention is also very important for patients to recover from disease. Main method: (1) The hospital needs to set up evidence-based nursing team, fully clarify the relevant contents of evidence-based nursing, accurately assess the actual condition of patients according to clinical nursing experience, carefully judge the feasibility and maneuverability of evidence-based nursing programs, and optimize the implementation measures. (2) Nursing staff need to effectively combine with the psychological needs of patients and the actual state of the disease and to carry out a comprehensive analysis of the risk problems existing in nursing work. It cannot be separated from the individual needs of patients. Nursing staff should formulate personalized and targeted evidence-based nursing program, carefully observe the specific physical condition and clinical manifestations of patients, in order to raise the relevant issues in the early stage of evidence-based nursing and fully make clear the focus of nursing work. At the same time, the relevant literatures and data should be collected and the key points of nursing of severe acute pancreatitis should be mastered; (3) During the treatment period, the nursing staff should tell the patient to fast the food strictly. the control time should be less than 20 days. The nursing staff should keep the stomach tube as far as possible, remove the stomach tube when recovering the bowel sound and eliminating the symptoms of intestinal paralysis, and monitor the urine sugar, urine volume, blood calcium, amylase, liver and kidney function in real time. If there is an abnormal situation, it needs to be reported to the doctor in time, and the patient should be properly handled. (4) According to the patient's abdominal pain, the nursing staff need to accurately evaluate the pain time, the nature of the pain and the degree of pain, etc., strengthen the positive communication and exchanges with the patient, and shift the patient's attention to alleviate the pain symptoms. If the patient has serious peritoneal chemical reaction exudation, excessive loss of body fluid and other related conditions, nursing staff need to closely monitor the patient's vital signs, and fully identify the pathogenic factors that lead to the occurrence of the patient's disease, so as to take targeted treatment measures for the patient. The reference basis of evidence-based nursing intervention is the scientific research results of high credibility and value. The relevant issues are raised and the evidences are found out to finally optimize the nursing intervention for patients. For evidence-based nursing, its core idea is to make individualized holistic nursing plan and nursing measures through searching the literature related to disease, comprehensive induction and analysis, combined with its own nursing skills and clinical nursing experience. Relevant

studies show that the implementation of evidence-based nursing model during the treatment of patients with severe acute pancreatitis can promote the effective improvement of clinical treatment effect. In the implementation of evidence-based nursing, nursing staff should pay more attention to patients' subjective feelings, monitor closely the patients' blood pressure, pulse, heart rate, respiration and body temperature, and grasp all kinds of clinical signs in order to improve the understanding, observation and judgment of nursing staff effectively, and improve their ability to solve specific problems significantly [18,21,22].

This paper explored the clinical value of octreotide therapy and nursing intervention in patients with acute pancreatitis. The resulted showed that compared with the control group (81.67%), the total effective rate (93.33%) was higher in the observation group (P<0.05%), indicating octreotide therapy and intensive nursing intervention could improve the therapeutic effect effectively; Before treatment, there was no statistically significant difference between the two groups (P>0.05). After treatment, C reactive protein, lactate dehydrogenase, WBC and hemodiastase of patients in the observation group were better than those in the control group (P<0.05), indicating octreotide therapy and intensive nursing intervention could significantly improve the index level of patients and promote disease recovery; compared with the control group (18.33%), the occurrence rate of hypoglycemia in the observation group (6.67%) was lower (P<0.05%), indicating octreotide therapy and intensive nursing intervention could effectively control the hypoglycemia; At the same time, the Nursing Satisfaction Scale of the observation group (95.00%) was higher than that of the control group (78.33%), (P<0.05%), indicating octreotide therapy and intensive nursing intervention could improve patients' satisfaction with nursing work, improve their cooperation with treatment and nursing work, and accelerate patients' disease recovery.

CONCLUSIONS

To sum up, patients with acute pancreatitis treated with octreotide and strengthened nursing intervention can obtain more obvious therapeutic effect, improve the treatment effect, eliminate the clinical symptoms, significantly improve related laboratory indicators of patients, reduce hypoglycemia occurrence rate and have a high nursing satisfaction scale. It can be seen that it has very significant clinical value.

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