

10.18686/pmr.v2i2.4454

The Influence of Cardiac Rehabilitation Intervention on Psychological Status and Complications in Elderly Patients with Heart Failure and Acute Myocardial Infarction

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Abstract: Objective: To analyze the effect of cardiac rehabilitation intervention on the incidence of heart failure and complications in patients with heart failure and acute myocardial infarction. **Methods:** All the patients included in this study were from 100 patients with senile heart failure and acute myocardial infarction admitted to our hospital from May 2022 to May 2023. All the patients were divided into two groups according to different intervention methods. The observation group used cardiac rehabilitation intervention, and the control group used conventional intervention methods, with 50 cases in each group. Psychological status and complication rates were compared between the two groups. **Results:** 2 weeks after intervention, the self-rating scale of anxiety and depression symptoms in the observation group was lower than that of the control group and significant ($P < 0.05$). After the intervention, the incidence of complications was lower than that in the control group, significant ($P < 0.05$). **Conclusion:** The cardiac rehabilitation intervention for patients with senile heart failure and acute myocardial infarction can improve the psychological condition of patients and reduce the incidence of related complications, which is worth popularizing and applying.

Keywords: Acute myocardial infarction; Heart failure; Cardiac rehabilitation intervention; Psychological state; Complications

Introduction

In clinical practice, some elderly patients with heart failure and acute myocardial infarction after standardized treatment, some patients' conditions will change, which will not only greatly improve the incidence of complications, but also bring greater psychological pressure to the patients, and have a great impact on their physical and psychological state. Therefore, while the reasonable treatment of heart failure and acute myocardial infarction in the elderly, many measures such as cardiac rehabilitation, nutritional support and psychological counseling should also be taken to maximize the prognosis of patients. Psychological adjustment and appropriate exercise can increase the blood supply of coronary collateral, thus improving myocardial ischemia and hypoxic symptoms, which is the main method of cardiac rehabilitation. This study included 100 patients with elderly heart failure and acute myocardial infarction for cardiac rehabilitation intervention, and analyzed the effect of the intervention, which is reported as follows.

1. Data and Methods

1.1 General information

All the patients involved in this study were elderly patients with heart failure and acute myocardial infarction who visited our hospital from May 2022 to May 2023. A total of 100 patients were included. The control group was 25:25 patients, aged 60-78 years, and the mean age of patients was (67.625 ± 2.62) , with heart failure in 24 patients and 26 patients with acute myocardial infarction. The ratio of the patients of the observation group was 23:27, 61-80 years, the mean age of the patients was (67.30 ± 2.54) , 25 patients with heart failure and 25 patients with acute myocardial infarction. The general data of the two groups were not significantly different and were comparable. All the patients and their families in this study were informed about the present study and signed the informed consent form. The ethics committee of our hospital approved this study. Inclusion criteria: 1. All of them meet the diagnosis of Heart failure and Acute Myocardial infarction in the Elderly, the ninth edition of Internal Medicine, and made comprehensive analysis according to the patients' clinical manifestations, electrocardiogram and other relevant indicators. 2. Patients over 60 years old; 3. Have good cognitive function and are able to cooperate with the intervention. 4. No previous history of drug allergy. 5. Complete clinical data.

1.2 Methods

The control group gave routine interventions, including relevant rescue preparation, stay completely in bed within 1 week of surgery, and still lie more after 2 weeks, but can slowly start the activity, start from bed, and then gradually increase the activity. In addition, attention should be paid to observe the patient's condition, medication and life guidance. The observation group gives the cardiac rehabilitation intervention at the same time, the main contents include: 1.1~3 days: maintain complete bed state, help the patient change clothes, wipe and eat, passive the body for 10 minutes / time, 2 times / day; By explain the environment in the monitoring room, psychological comfort of the patient, the disease knowledge, inducement, cause, prognosis, treatment methods and key points of cooperation, and on this basis, effective psychological counseling, in the process, some rehabilitation cases, to help the patient to establish confidence in recovery.2.4-5: upper body start activities, slow deep breathing, every 3 minutes, 2 times / day, wash face and eat in the sitting position, use sitting position 3 times / day, 10-20 minutes / time, during this period, can read the radio; inform the patient to pay attention to during exercise, and praise and encourage the patient.3.6-7 d: can stand up independently, can be sitting down at the head of the table, between two meals should sit in a sitting position, every 10 minutes, 2 times / day.4.8~10 d: Patients need to walk under the supervision of the patient, 10-15 minutes, 2 times / d, can receive visitors, and watch some mild films or TV series; publicize the risk factors related to the disease and the measures to prevent the recurrence to the patient and their families, and distribute relevant information on the prevention and treatment of infectious diseases.5.11~12:30~50 meters of walking exercise, 20 minutes each time, explain the disease medication and emergency methods.6.13-14: According to the specific condition of the patient, appropriately increase the walking distance, and do more outdoor exercise.7. Pre-discharge education: Before discharge, the patient should be taught relevant education, inform the patient of the plans and measures of diet, drugs, activities and other aspects after discharge, and let the patient learn their own heartbeat, and put forward relevant opinions.

1.3 Observing indicators

1. Compare the psychological status of the two groups. To evaluate the degree of anxiety and depression by SAS and SDS before and 2 weeks after the intervention, the higher the score was, the heavier the anxiety and depression were. SAS scale: generally below 50; mild anxiety: 50-60; moderate anxiety between 61 and 70, severe anxiety above 70. SDS scale: Normal: below 53; mild depression: 53-62; moderate depression: 63-71, severe depression:> 72.2. Compare the complications between the two groups: arrhythmia, acute heart failure, angina pectoris, and cardiogenic shock.

1.4 Statistical analysis

The obtained data were statistically analyzed in SPSS23.0. Count data are expressed as $(\bar{x} \pm s)$ and t-tested; measurement data are expressed as a percentage and chi-square tested. $P < 0.05$ was considered significant, and neither was significant.

2. Results

Comparison of the psychological status in the two groups Before intervention, neither SAS nor SDS scores were significant ($P > 0.05$); SAS and SDS scores decreased significantly in the observation group after two weeks, compared with the control group ($P < 0.05$). See also Table 1. Table 1 Comparison of psychological status between the two groups ($\bar{x} \pm s$, points) group Example number SAS grade SDS grade Before the intervention After the intervention Before the intervention After the intervention observation group 50 52.42±5.16 39.14±4.28 54.12±4.17 41.30±4.41 control group 50 52.58±5.02 45.20±3.85 54.05±4.34 48.26±4.24 t 0.142 6.662 0.073 7.268 P 0.887 0.000 0.941 0.000

Comparison of the complications between both patient groups The postoperative complications in the observed group were significantly less than those in the control group ($P < 0.05$). Please see Table Table 2. Table 2 Comparison of complications in the two groups [n (%)] group Example number arrhythmia Acute heart failure angina pectoris cardiac shock amount to observation group 50 1(2.00) 0(0.00) 1(2.00) 0(0.00) 2(4.00)a control group 50 3(6.00) 2(4.00) 3(6.00) 2(4.00) 10(20.00) χ^2 6.248 P 0.012.

3. Discussion

Heart failure and acute myocardial infarction are the two most common cardiovascular diseases, among which the old age is mainly advanced, which has caused great harm to the patient's life and body. With the development of society and the progress of medical concepts, people's demand for the body is also increasing. Elderly heart failure, acute myocardial infarction patients, due to their own health conditions and other reasons, are more likely to produce negative emotions and complications, so that their condition becomes more serious, resulting in a vicious cycle. It suggests that cardiac rehabilitation intervention and mental health education for such patients are very necessary. Cardiac rehabilitation is a key point in the recovery process of elderly patients with heart failure and acute myocardial infarction in recent years, and it has been gradually applied to clinical practice in recent years. Cardiac rehabilitation includes medical evaluation, prescription exercise, cardiac risk factor correction, counseling, education, behavior modification, and mainly exercise rehabilitation. The results of this study showed that after 2 weeks of intervention, the SAS and SDS scores in the observation group were significantly reduced, which was significant com-

pared with the control group ($P < 0.05$). Postoperative complications were significantly less in the observation group than in the control group ($P < 0.05$). Through cardiac rehabilitation treatment for patients, their negative emotions can be reduced and the occurrence of various complications can be reduced. The main reasons are: through exercise, psychological adjustment and other ways, can improve the coronary collateral blood supply, reduce the formation of plaque, relieve the hypoxia and ischemia of the myocardium, improve the reserve of coronary blood flow and cardiovascular work efficiency, so as to reduce the occurrence of various cardiovascular events. In conclusion, cardiac rehabilitation treatment for elderly patients with heart failure and acute myocardial infarction can improve the psychological condition of patients and reduce the related complications, which is worthy of promotion and application.

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