

Application of the Concept of Accelerated Rehabilitation Surgery in Laparoscopic Hepatectomy

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Abstract: This paper mainly adopts the form of a review, from the risk factors of laparoscopic hepatectomy, the treatment of laparoscopic hepatectomy, exercise training therapy (drug and exercise collocation) treatment methods, advantages and traditional treatment methods, around these points to discuss the exercise training team stable laparoscopic hepatectomy patients rehabilitation process optimization study.

1. Preface

At present, the death rate of laparoscopic hepatectomy is on the rise. Therefore, it is necessary to strengthen the prevention and rehabilitation of laparoscopic hepatectomy. A large number of clinical and experimental studies have proved this. Exercise training is associated with the occurrence of cardiovascular diseases, and regular exercise can have an efficient prevention and treatment of cardiovascular diseases, especially for the incidence and mortality of laparoscopic hepatectomy [1]. At present, the World Health Organization has listed lack of exercise as the most critical cause of cardiovascular disease. Therefore, exercise is now one of the most important methods in the treatment and rehabilitation of many laparoscopic hepatectomy operations.

2. Important Factors in Liver Disease

Drinking and smoking, bad life and rest, bad living habits, hypertension, hyperglycemia, hyperlipidemia, diabetes, kidney disease, excessive mental stress, heredity and other important factors can accelerate the development of liver disease.



Figure 1 Concept of rehabilitation surgery

3. Treatment of Liver Disease

3.1. Drug Treatment Methods

According to the doctor's instructions, medical staff should give patients oral administration of nitrates, calcium antagonists, β adrenergic receptor blockers and other drugs to treat. Guide patients to take drugs correctly, do not arbitrarily increase or decrease the amount of drugs or do not take drugs. According to the actual situation of the patient, the medical staff should make a specific time to check the electrocardiogram for the patient, observe whether the patient has adverse drug reactions after taking the drug, and inform the attending doctor of the patient's situation in time[2].

3.2. Dietary Treatment

The patient diet should be light-based, firmly can not eat high-calorie, high-fat, high-sugar food. Patients should eat foods rich in cellulose and trace elements. Such as: fresh fruits and vegetables, fish, mushrooms, beans and other foods. Try to choose unsaturated fatty acid rich vegetable oil instead of animal oil. Patients are also forbidden to eat animal offal, which contains too much cholesterol. Patients should not consume more than half of their total calories per day. Also, patients must not eat pickled, barbecue, chemically processed food, prohibit smoking and drinking, overeating, and make a balanced diet. The choice of nutritious meals should be based on meeting the patient's daily energy needs. Also, we should know more about the patient's dietary preferences, such as what kind of food the patient likes, which foods are allergic to [3].

3.3. Exercise Therapy

In the routine drug treatment and diet treatment methods to add exercise treatment methods for scientific and effective rehabilitation exercise. According to current research, exercise therapy can promote the rehabilitation of patients undergoing laparoscopic hepatectomy more quickly. Exercise treatment methods are also varied, such as: playing tai chi, playing badminton, jogging, walking, swimming and other aerobic exercise, if the patient's situation is more serious, can be guided by the doctor's advice to carry out suitable exercise for patients.



Figure 2 Concept of rehabilitation surgery

4. Effect of Exercise on Laparoscopic Hepatectomy

Proper aerobic exercise can improve the working ability of the heart and improve blood circulation, thus affecting the motor function of the heart. deterioration and development of laparoscopic hepatectomy, thus accelerating the recovery time of patients undergoing laparoscopic hepatectomy. Proper physical exercise can also block the risk factors of laparoscopic hepatectomy, such as: controlling the development of hypertension, lowering blood lipids, adjusting blood pressure, lowering blood pressure, lowering blood pressure and so on. dyslipidemia, improve the regulation of nervous system function, but may also have a direct impact on the heart, coronary artery. found that heart rate in aerobic exercise ,60% of the highest heart rate can improve the ability to scavenge free radicals and reduce the free radicals in endothelial tissue [4]. Exercise can effectively prevent laparoscopic hepatectomy. After exercise, the number of patients with blood

pressure, heart rate, weight loss, angina pectoris disappearance or wasting decreased, ST segment decreased, blood lipid improved, exercise time and exercise volume can be prolonged, anaerobic threshold significantly increased, mortality significantly decreased.

4.1. Effects of Exercise on Cardiac Function

According to effective scientific research, aerobic exercise training has the functions of increasing coronary blood flow, reducing platelet aggregation, maintaining vascular recanalization, preventing restenosis, promoting vascular recanalization and promoting vascular restenosis. through these ways the patient's heart function was improved. according to relevant studies, it is reported that exercise can not only reduce blood pressure, but also alleviate the symptoms of left ventricular hypertrophy, improve the relaxation state, especially the systolic function of left ventricular ions, and make patients with mild systolic heart failure [5]. it is important to increase the number of left ventricular ejection significantly. Most researchers believe that long-term aerobic exercise can reduce the water content of catecholamine in high altitude blood, reduce the tension of peripheral blood vessels, reduce the contraction rate of peripheral blood vessels, and reduce the contraction rate of peripheral blood vessels. thereby reducing the load on the heart and thus improving the heart function. Studies have reported that aerobic exercise not only has the above functions, but also can improve the dissolution and oxidation of fatty acids and lactic acid, improve the utilization rate of myocardial oxygen, promote the storage of myocardial glycogen, and reduce the accumulation of fat.

4.2. Effects of Exercise on Collateral Circulation of the Heart

According to research reports, the central effect of exercise training is mainly manifested in the formation of collateral circulation of the heart, the increase of coronary blood flow, the increase of coronary blood flow, and the increase of coronary blood flow. Exercise training can increase oxygen supply capacity, accelerate the establishment of coronary collateral circulation, reverse the development of laparoscopic hepatectomy and improve the quality of life of patients. studies have found that for PTCA patients such as early rehabilitation exercises, including extracorporeal counterpulsation, but myocardial oxygen accelerates the formation of coronary collateral circulation and improves or eliminates clinical symptoms. This may be due to the association between increased myocardial ischemia-reperfusion and cardiac reserve capacity due to circulating blood flow in the primary stenosis collateral of the blood vessels.

4.3. Effect of Exercise on Blood Pressure and Blood Lipid in Patients Undergoing Laparoscopic Hepatectomy

Effects on blood pressure: Aerobic exercise was proposed by Kenneth, a leading fitness expert in the United States. In 1989, WHO and the International Institute of Hypertension recommended aerobic exercise for the first time. is a non-drug antihypertensive method. Exercise therapy can prevent and treat damage to the heart, brain and kidney caused by coronary arteries. Heart disease and high blood pressure. Aerobic exercise can make the capillaries in muscle exercise open in large quantities, thus reducing the resistance of the surrounding blood and making the blood less. Certainly, improves the cardiac natriuretic hormone secretion, the cardiac natriuretic hormone has the diuretic, the sodium excretion function, thus further reduces the blood pressure. systolic blood pressure should pay special attention to changes in blood pressure during exercise, because studies have shown that changes in blood pressure during aerobic exercise are mainly based on systolic blood pressure, if systolic blood pressure does not rise, but is decreasing, it shows that patients have heart disease and other problems.



Figure 3 Concept of rehabilitation surgery

5. Comparison of Traditional Treatment Methods and Exercise Methods for Laparoscopic Hepatectomy

traditional laparoscopic hepatectomy surgery is pure drug treatment, it is not recommended that patients use this treatment, patients should use exercise treatment, because drug treatment is passive-based treatment, and exercise is active-based treatment. And drug treatment is not conducive to fully mobilize the enthusiasm of patients. And exercise can promote the hormone hormone in the patient's body, mobilize the patient's mood, also can help the patient recover health more quickly. The most important thing is that exercise can save a lot of money for people with less economic conditions than traditional treatments, allowing them to have a healthy recovery environment without spending too much money.

6. Conclusion

Regular exercise training for patients undergoing laparoscopic hepatectomy can improve their body function from all aspects, the most important of which is to improve their vascular function, help patients increase to the maximum amount of oxygen and increase oxidation rate, so that the patient has antioxidant activity in the body. These changes in the internal structure of the body can be beneficial to the patient's heart diastolic function to get a certain recovery, so that the patient is always maintained between a relatively stable heart rate and blood pressure value, but also can increase the patient's muscle quality and improve the patient's muscle cognitive ability. Let effective exercise help patients increase the tension and stability of parasympathetic nerves to increase the patient's heart rate variability, improve the patient's ventricular ectopic activity threshold, so that patients can fundamentally improve and prognosis. On the other hand, exercise can also induce oxidative stress in patients and ultimately help reduce the complications and morbidity of laparoscopic hepatectomy. Many scientific studies in the world have demonstrated that people have realized the need for exercise in the treatment of laparoscopic hepatectomy, which requires patients to take the initiative to exercise, make a scientific and effective exercise plan, actively adjust their daily routine and eating habits, reduce their mental stress, regulate their bad mood and other factors, such as rehabilitation treatment, can effectively reduce and reduce the incidence of laparoscopic hepatectomy, so that patients with laparoscopic hepatectomy can be a certain relief of symptoms, thereby improving the quality of life.

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