

STUDY ON THE EFFECTS OF SPLEEN-STRENGTHENING MEAL REPLACEMENT POWDER ON ASCITES IN LIVER CIRRHOSIS

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Abstract: Objective: To study the effects of spleen-strengthening meal replacement powder on ascites in liver cirrhosis. Methods: Sixty patients with liver cirrhosis and ascites, who received treatment at our hospital, were selected as the study subjects. The selected patients were randomly divided into two groups, Group I and Group II (30 cases per group). After discharge, Group I continued with a low-salt diet and diuretics as standard treatment and was given a meal replacement powder without spleen-strengthening effects as breakfast. Group II continued with diuretics as standard treatment and was given a spleen-strengthening meal replacement powder as breakfast, with the rest of the diet following a low-salt diet standard. Both groups were continuously observed and treated for six months. Ascites indicators before and after treatment in both groups were measured. Results: Group II showed higher treatment efficacy and quality of life, with $P < 0.05$. Conclusion: Spleen-strengthening meal replacement powder has a certain effect on the treatment and relief of ascites in liver cirrhosis and is worth promoting in clinical practice.

Keywords: Spleen-strengthening meal replacement powder; Ascites in liver cirrhosis

1 INTRODUCTION

Ascites in Liver Cirrhosis is a common complication in the late stages of cirrhosis. Its pathogenesis is complex, and symptoms are severe [1]. It generally results from a series of pathological changes caused by prolonged liver damage, necessitating timely treatment to avoid serious consequences [2]. Clinically, the treatment for ascites in liver cirrhosis mainly includes diuretics, paracentesis, and albumin infusion [3]. Diuretics can increase urine output, reduce body fluid, and alleviate ascites symptoms, though they have certain side effects [4]. Paracentesis can quickly relieve ascites symptoms, but frequent procedures can lead to infection and the recurrence of ascites [5]. Compared to these methods, Traditional Chinese Medicine (TCM) offers certain advantages in treating ascites in liver cirrhosis. TCM emphasizes syndrome differentiation and holistic regulation, providing individualized treatment that can improve clinical symptoms and regulate the body from the source, thus enhancing the patient's quality of life [6]. Currently, spleen-strengthening meal replacement powder has attracted attention. Guided by TCM theory, it can improve spleen and stomach function, enhance immunity, and offer a safe, effective, and sustainable treatment option for patients with ascites in liver cirrhosis [7-8]. Based on this, this study selects multiple patients with ascites in liver cirrhosis, designs a relevant control experiment, and thoroughly investigates the effects of spleen-strengthening meal replacement powder on ascites in liver cirrhosis.

2 MATERIALS AND METHODS

2.1 General Information

From January to December 2023, 60 patients with cirrhosis and ascites who were treated in our hospital were selected as experimental subjects. The selected patients were divided into two groups according to the random number table method, group I and group II (30 cases/group). The age range of the subjects in group I (15 males and 15 females) was 22-83 years old, with an average of (64.01 ± 3.07) years old. The age range of the subjects in group II (16 males and 14 females) was 21-84 years old, with an average of (64.07 ± 3.01) years old. After comparison between the two groups, the baseline data were statistically compared ($P > 0.05$) and were comparable.

Exclusion criteria: ① with severe cardiopulmonary and renal diseases; ② history of drug allergy; ③ abnormal mental state; ④ unable to cooperate.

Inclusion criteria: ① diagnosed with cirrhosis ascites by systematic clinical examination; ② met discharge criteria after conventional Western medicine treatment in our hospital; ③ patients were aware of the contents of the experiment and had signed the consent form; ④ able to cooperate with routine operations.

2.2 Methods

After discharge, patients in group I continued to receive treatment according to conventional standards, including conventional treatment methods such as salt-restricted diet and diuretics. At the same time, patients were given a meal replacement powder without spleen-strengthening effect as breakfast. Although this meal replacement powder can provide the nutrition required by patients, it has no special effect on spleen-strengthening.

After discharge, patients in group II continued to receive treatment according to conventional standards, including conventional treatment methods such as diuretics. For breakfast, patients were given spleen-strengthening meal replacement powder. Chinese yam, lotus seeds, coix seeds, and Euryale ferox, which have the effect of strengthening the spleen and removing dampness, were taken as the main ingredients of spleen-strengthening meal replacement powder, with a ratio of 1:1:1:1, 80g per serving. In addition to breakfast, the patient's other diet will also be strictly in accordance with the standards of salt-restricted diet.

Both groups of patients will continue to receive treatment and observation, and the entire observation and treatment process will last for 6 months.

2.3 Observation Indicators

Treatment effectiveness: Measure the ascites indicators before and after treatment in both groups, and draw up clinical efficacy with reference to relevant standards: ① Markedly effective: There are basically no symptoms and signs related to abdominal distension and abdominal enlargement, and the ascites completely subsides; ② Effective: Abdominal distension and other related symptoms after treatment Symptoms improved, abdominal circumference, edema and other physical signs were significantly improved, and ascites was significantly reduced than before; ③ Invalid: No changes in relevant symptoms and signs were seen after treatment, or even worsened. The ratio of the sum of the number of markedly effective cases and the number of effective cases to the total is the treatment effective rate.

Quality of life: The SF-36 assessment scale is used, with a score range of 0-100. A higher score indicates a higher quality of life.

2.4 Statistical Analysis

The collected data were analyzed using SPSS 22.0 software. After statistical processing, "P<0.05" indicated that the difference was statistically significant. The test value was "t", the counting method was [n (%)], and the counting data were tested using.

3 RESULTS

3.1 Treatment Effectiveness Rate

The treatment efficacy of group II was higher, P<0.05. See Table 1 for details.

Table 1 Comparison of the Effective Rate of Treatment between the Two Groups of Patients [n (%)]

| group | number of cases | efficacious (n) | effective (n) | ineffective (n) | treatment efficacy rate |
|----------|-----------------|-----------------|---------------|-----------------|-------------------------|
| I | 30 | 10 | 18 | 2 | 28 (93.33) |
| II | 30 | 7 | 15 | 8 | 22 (73.33) |
| χ^2 | | | | | 4.320 |
| P | | | | | 0.038 |

3.2 Quality of Life

The treatment efficacy of group II was higher, P<0.05. See Table 2 for details.

Table 2 Comparison of Quality of Life between the Two Groups of Patients ($\bar{X} \pm S$, points)

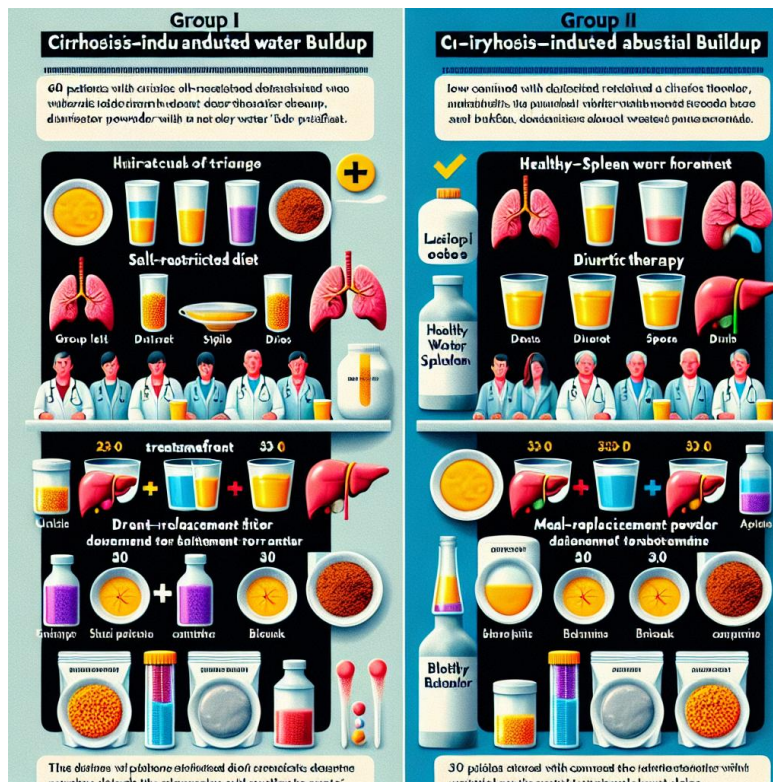
| group | number of cases | pre-treatment | post-treatment |
|-------|-----------------|---------------|----------------|
| I | 30 | 70.24±0.58 | 92.25±2.34 |
| II | 30 | 70.23±0.57 | 85.33±1.43 |
| t | | 0.067 | 13.821 |
| P | | 0.473 | 0.000 |

4 DISCUSSION

Ascites in cirrhosis is a complication of cirrhosis in the late stage. It is very serious and poses a great threat to the patient's health. After the accumulation of ascites, the patient's abdomen will be significantly swollen, the patient will feel discomfort and pain, and daily activities will be affected. Ascites will also compress the lungs, and patients usually feel difficulty breathing. At the same time, when the patient is uncomfortable, his appetite will be affected, indigestion will occur, and he will not be able to take in enough nutrition, which will further endanger his health. The risk of infection is also an important hazard. Bacteria can easily multiply in the ascites environment, which may cause peritonitis. If not treated in time, it may develop into sepsis, which directly threatens the patient's life. In addition, the accumulation of ascites will reduce the patient's effective circulating blood volume, cause hypotension or shock, and increase the burden on the heart. In severe cases, it will cause heart failure. It will also damage the patient's liver function and increase the risk of hepatic encephalopathy. In short, the presence of ascites in cirrhosis will have an impact on the patient's body that cannot be ignored and increase the patient's mortality rate. Therefore, for patients with cirrhosis ascites, timely diagnosis and treatment are essential.

The characteristic of ascites in cirrhosis is the accumulation of large amounts of ascites, which can have a serious impact on the patient's physiological function and quality of life[9]. At present, in clinical practice, Western medicine has limited efficacy or has certain side effects. More and more people are beginning to pay attention to traditional Chinese medicine methods, among which strengthening the spleen and eliminating dampness is an important principle of traditional Chinese medicine in treating ascites in cirrhosis[10]. Jianpi meal replacement powder is composed of yam, lotus seeds, coix seeds, and gorgon fruit as the main ingredients, all of which have the effect of strengthening the spleen and eliminating dampness. Yam can nourish the spleen and lungs, lotus seeds can nourish the heart and calm the mind, coix seeds can eliminate dampness, and gorgon fruit can strengthen the spleen and stop diarrhea. All the ingredients may improve the symptoms of ascites in cirrhosis through synergistic effects[11]. Jianpi meal replacement powder can reduce ascites by regulating intestinal flora and improving intestinal function. By reducing the burden on the liver and improving liver function, the risk of ascites is reduced. Jianpi meal replacement powder also has a certain anti-inflammatory effect and can reduce the inflammatory response of ascites in cirrhosis[12].

Figure 1 Study on the Effects of Spleen-Strengthening Meal Replacement Powder on Ascites in Liver Cirrhosis



In this experiment, several patients with cirrhosis and ascites who were treated in our hospital were selected to participate in the experiment. The selected patients were divided into two groups according to the random number table method. After discharge, Group I continued to receive conventional treatments such as salt-restricted diet and diuretics according to conventional standards, and gave meal replacement powder without spleen-strengthening effect as breakfast. Group II continued to receive conventional treatments such as diuretics according to conventional standards, and gave spleen-strengthening meal replacement powder as breakfast, and other diets were based on salt-restricted diet standards. Both groups were observed and treated for 6 months. The observation indicators were treatment efficiency and quality of life. There may be some minor problems in the experiment: ① The meal replacement powder is 80g per

serving, which is too much or too little for some patients. Solution: increase or decrease the amount according to the situation of different patients, and allow no more than 20% fluctuation; ② Some patients have low compliance. Solution: Eliminate those with too low compliance. The results show that patients given reduced-salt meal replacement powder have high treatment efficiency and quality of life, and the data are statistically significant.

5 CONCLUSION

In summary, for patients with liver cirrhosis and ascites, spleen-invigorating meal replacement powder has significant efficacy and can improve liver function and quality of life (Figure 1). Therefore, spleen-invigorating meal replacement powder has potential application value in the treatment of cirrhosis and ascites.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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