

# Clinical Efficacy Observation of Pangfu Wan Yao Medicine in Treating Ascites of Liver Cirrhosis

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## Abstract

**Objective:** To treat ascites in patients with grade 3 liver cirrhosis using traditional Chinese medicine, evaluate effectiveness and safety by observing improvements in physical and mental symptoms, explore optimal treatment measures, and benefit clinical practice. **Methods:** 40 patients with ascites of liver cirrhosis admitted to our department from October 2020 to October 2022 were selected. According to a random number table, all patients were divided into an observation group treated with Yao Medicine and a control group treated with conventional Western medicine, with 20 cases in each group. The improvement of adverse emotions was evaluated before and after treatment using the Self-Rating Depression Scale (SDS) and the Self-Rating Anxiety Scale (SAS). The changes in liver function indicators were observed to judge the efficacy and safety. **Results:** The effective rate in the observation group was 95.00%, and in the control group was 90.00%. The comparison between the two groups showed a significant increase in the effective rate in the observation group, with a statistically significant difference ( $P < 0.05$ ), and no adverse reactions were observed. Compared with the control group, the observation group showed significant improvement in all liver function indicators, with a statistically significant difference ( $P < 0.05$ ). Before treatment, there was no statistically significant difference in the psychological status of the two groups in terms of SDS and SAS scores ( $P > 0.05$ ). After treatment, compared with the control group, the observation group showed a significant decrease in SDS and SAS scores, with a statistically significant difference ( $P < 0.05$ ). **Conclusion:** Yao Medicine can effectively improve the physical and mental symptoms of patients with ascites of liver cirrhosis, with good effectiveness and high safety.

## Keywords

Yao Medicine, Ascites of Liver Cirrhosis, Efficacy, Physical and Mental Symptoms

## 1. Introduction

Hepatic ascites are an important manifestation of the decompensated stage of liver cirrhosis. Clinically, ascites can be classified into 3 levels based on the amount: grade 1 (small amount), grade 2 (moderate amount), and grade 3 (large amount). Due to the lack of specific clinical manifestations in the early stage of liver cirrhosis, many patients only seek medical attention when they reach the decompensated stage. The 5-year survival rate of patients in the decompensated stage of liver cirrhosis is less than 50%, posing a serious threat to their lives and health [1]. Therefore, taking effective measures to prevent the deterioration of the disease and improve the prognosis is still a challenging task for the medical community. Western medicine mainly treats cirrhotic ascites with symptomatic treatments such as salt restriction, diuretics, and paracentesis, which can effectively improve the clinical symptoms of cirrhotic ascites. However, it cannot reverse the condition and may lead to electrolyte disturbances [2]. Therefore, exploring effective treatment measures is one of the current challenges for medical professionals. The Yao ethnic group is one of the ancient minority ethnic groups in China, mainly residing in the southern mountainous areas. Yao medicine is the result of the accumulated experience of disease prevention and treatment among the Yao ethnic group, forming a unique medical theory. Yao Medicine has distinct characteristics in the treatment of cirrhotic ascites and has gradually been recognized by clinical doctors. As the only specialized hospital in the country for Yao Medicine, we have summarized the treatment of grade 3 cirrhotic ascites by Yao Medicine practitioner Pang Fuwan for clinical reference.

## 2. Object and Method

### 2.1. Research Object

From October 2020 to October 2022, 40 patients with cirrhotic ascites admitted to our department were included in the study after signing an informed consent form. The research protocol was approved by our hospital's ethics committee.

### 2.2. Selection Criteria

#### 2.2.1. Inclusion Criteria

1) Meeting the diagnostic criteria for cirrhotic ascites and related complications in the "Guidelines for the Diagnosis and Treatment of Cirrhotic Ascites (2017)" [3]; 2) Patients with large amounts of ascites (grade 3); 3) Those who consented to the research protocol.

#### 2.2.2. Exclusion Criteria

1) Patients with alcoholic cirrhotic ascites; 2) Patients with liver cancer, malignant ascites, tuberculous ascites, or ascites not caused by cirrhosis; 3) Patients with refractory ascites; 4) Those with concomitant diseases such as hepatic encephalopathy and gastrointestinal bleeding.

### 2.3. General Information

According to the principles of randomized double-blind controlled trials in

clinical research, all patients were divided into an observation group receiving traditional Chinese medicine treatment and a control group receiving conventional Western medicine treatment, with 20 cases in each group. Statistical analysis showed no significant differences in general patient information between the two groups, indicating good comparability (refer to **Table 1**). Based on the diagnostic criteria in the treatment guidelines, a comparison of the baseline conditions of the two patient groups revealed that all patients had not received any relevant treatment before admission. The patients in both groups presented with Grade 3 ascites, positive shifting dullness, and abdominal ultrasounds showing ascites occupying the entire abdominal cavity or filling the mid-abdomen (depth > 10 cm). The baseline conditions were normal and showed good comparability.

**Table 1.** Comparison of general information of the two groups (n = 20).

Group	Sex (n/%)		Average Age (years)	Average Disease Duration (years)
	Male	Female		
Observation Group	15 (75.00)	5 (25.00)	61.67 ± 2.05	3.8 ± 0.5
Control Group	14 (70.00)	6 (30.00)	61.89 ± 2.16	3.7 ± 0.6
X <sup>2</sup> /t	2.079		0.218	0.211
P	>0.05		>0.05	>0.05

## 2.4. Treatment Measures

**Observation Group:** Patients received Yao Medicine treatment, including a specific herbal prescription. The herbal decoction comprised the following herbs: Maoxucao 25 g, Honglian 13 g, Duohuateng 40 g, Xiuhuazhen 25 g, Didancao 25 g, Dashigong 20 g, Cheqiancao 17 g, Huangdanmu 40 g, Qingjiao 15 g, Shuidingxiang 25 g, Jiujiecha 17 g, Xiaomutong 20 g, Yuyejinhua 35 g, Xiaoyebu 13 g, Xiaobaibe 13 g, Ruangancao 13 g, Shuiyangmei 30 g, Daoshuilian 30 g and Wuzhiniu 30 g. The decoction was prepared to a volume of 300 ml and administered three times daily. **Control Group:** Patients received routine internal medicine treatment, including bed rest upon admission, a low-salt, low-fat, high-quality protein diet, diuretics for edema reduction, hepatoprotective and antiviral therapy, and nutritional support for those who were undernourished. In addition, intravenous administration of reduced glutathione at a dose of 0.6 g once daily, oral furosemide 20 mg once daily, and oral entecavir dispersible tablets 0.5 g once daily were given.

**Course of Treatment:** Each course of treatment lasted for 14 days, and the efficacy was assessed after four consecutive courses of treatment.

**Follow-up:** At the end of treatment, a 6-month follow-up was performed.

## 2.5. Observation Indicators

**Liver function indicators:** Levels of aspartate aminotransferase (AST), alanine aminotransferase (ALT),  $\gamma$ -glutamyl transpeptidase ( $\gamma$ -GGT), total bilirubin (T-

Bil), and albumin (ALB) were measured before and after treatment using a fully automatic biochemical analyzer. Assessment of improvement in negative emotions: The negative emotions of the two groups of patients were assessed before treatment and 6 months after treatment using the Self-Rating Depression Scale [4] (SDS) and the Self-Rating Anxiety Scale [4] (SAS). The normal upper limit for the total raw score of both scales is 41, and the standard total score is 53. The scores are directly proportional to the degree of negative emotions.

## 2.6. Efficacy Evaluation

According to the “Guiding Principles for Clinical Research of New Chinese Medicines” [5]: Significant effect: significant improvement or disappearance of clinical symptoms, daily urine output > 1500 ml, restoration of normal body weight and abdominal circumference, post-treatment traditional Chinese medicine symptom score ≤ 90% of pre-treatment score; effective: some improvement in clinical symptoms, body weight reduction ≥ 2 kg, abdominal circumference reduction ≥ 5 cm, post-treatment traditional Chinese medicine symptom score ≤ 70% of pre-treatment score; ineffective: failure to meet the above standards.

## 2.7. Statistical Methods

The research data were organized and analyzed using SPSS 21.0 statistical software. Percentage was used for count data,  $X^2$  test for qualitative data, and t-test for quantitative data, expressed as (mean ± standard deviation). Statistical significance was considered when  $P < 0.05$ .

## 3. Results

### 3.1. Comparison of Efficacy in Two Groups of Patients

The effective rate in the observation group was 95.00%, while in the control group it was 90.00%. The comparison between the two groups showed a significant increase in the effective rate in the observation group, with a statistically significant difference ( $P < 0.05$ ), as shown in **Table 2**.

**Table 2.** Comparison of efficacy in two groups of patients (n = 20, n%).

Group	Evidently effective	Effective	Ineffective	Total Effective Rate (%)
Observation Group	8	11	1	95.00
Control Group	5	13	2	90.00
$X^2$			21.73	
$P$			<0.05	

### 3.2. Comparison of Liver Function in Two Groups of Patients

Compared with the control group, all indicators of liver function in the observation group showed significant improvement, with a statistically significant

difference ( $P < 0.05$ ). The results are shown in **Table 3**.

**Table 3.** Comparison of liver function improvement in two groups of patients (n = 20).

	ALT (u/l)	AST (u/l)	$\gamma$ -GGT (u/l)	TBIL (umol/l)	DBIL (umol/l)
Observation Group	42.9 ± 9.2	45.4 ± 21.3	61.9 ± 11.3	17.9 ± 5.3	9.9 ± 1.3
Control Group	63.2 ± 9.3	65.8 ± 21.5	70.1 ± 10.7	20.1 ± 5.7	14.1 ± 1.7
t	8.22	8.27	13.23	15.11	6.23
P	<0.05	<0.05	<0.05	<0.05	<0.05

### 3.3. Comparison of Improvement in Adverse Emotions in Two Groups of Patients

Before treatment, there was no statistically significant difference in SDS and SAS scores between the two groups ( $P > 0.05$ ); after treatment, compared with the control group, the observation group showed a significant decrease in both SDS and SAS scores, with a statistically significant difference ( $P < 0.05$ ), as shown in **Table 4**.

**Table 4.** Comparison of Improvement in adverse emotions in two groups of patients (n = 42, score).

Group	SDS		SAS	
	Before Treatment	After Treatment	Before Treatment	After Treatment
Observation Group	50.19 ± 5.69	23.05 ± 5.11	52.33 ± 7.89	22.01 ± 5.22
Control Group	50.12 ± 5.70	36.38 ± 4.72	52.35 ± 7.88	36.22 ± 5.34
t	1.21	4.38	0.99	3.99
P	>0.05	<0.05	>0.05	<0.05

### 3.4. Safety Comparison of Two Groups of Patients

No adverse reactions were observed in either group of patients.

## 4. Discussion

Ascites refers to the pathological accumulation of fluid in the abdominal cavity. Hepatic cirrhosis ascites is the most common type, accounting for about 75% [1]. Hepatic cirrhosis ascites is the most important clinical manifestation in the decompensated stage of liver cirrhosis. Once ascites appear, patients may die from complications such as peritonitis and hepatorenal syndrome caused by ascites [6]. The ascites caused by hepatitis B-induced cirrhosis are mainly due to the long-term repeated action of the hepatitis B virus on the liver, leading to degeneration and necrosis of liver cells, resulting in fibrosis, decreased liver function, and portal hypertension, leading to the formation of ascites [7]. With the gradual deepening of understanding of the transmission routes of hepatitis B virus and the widespread

use of vaccines in China, the incidence of hepatitis B in China is decreasing year by year. However, due to the large population base in China, the number of hepatitis B patients in China remains high. Therefore, the diagnosis and treatment of cirrhotic ascites caused by hepatitis B still troubles clinical physicians [8]. Modern medicine's treatment of hepatitis B-induced cirrhotic ascites focuses on eliminating the cause, supplementing with serum albumin, paracentesis, liver protection, diuresis, and symptomatic treatment. However, ascites symptoms are prone to recurrence, and the effect is limited [9]. Yao Medicine attributes the cause of malignant tumors to the excessive invasion of external pathogens, deficiency of righteous qi in the body, imbalance of excess and deficiency, and the entry of external pathogens during the prolonged period, leading to the formation of malignant tumors. Yao Medicine has the theory of "six elements", believing that the five elements are tangible objects, representing the human body system, which is equivalent to the modern anatomy of the human body [10]; the sixth element, Yao Medicine calls it "qi", is an intangible object, representing the spiritual (soul) system. The new medical model, "biopsychosocial medical model", attaches great importance to and emphasizes psychological, social, environmental, and other factors. Yao Medicine takes "harmony of the three elements" as the theoretical principle of medicine. "Harmony of the three elements" refers to the harmony and communication of heaven, earth, and humanity. Dao has the way of heaven, the way of earth, and the way of humanity. The way of heaven and the way of earth are the ways of nature. The way of humanity includes the way of life and the way of society. The way of medicine is the way of life, and the way of life is in communication with the way of nature and the way of society. Yao Medicine realizes that the way of society, namely social factors, psychological factors, etc., are the factors that lead to the formation of malignant tumors, so it attaches importance to eliminating these factors, rather than simply treating them. Therefore, the treatment of diseases is no longer just a trend, but a joint treatment of body and mind [11].

According to the "pathogenesis theory" of Yao medicine, patients with ascites due to cirrhosis are mostly caused by "deficiency of righteous qi, insufficiency of spleen and kidney, accumulation of water and dampness, retention of toxic evils", and should therefore be treated with the principles of "tonifying righteous qi, strengthening spleen and kidney, expelling water and dampness, detoxifying and dispelling evils". The combination of Yao medicine in this study has a dual tonifying and expelling effect: Maouxcao promotes diuresis and reduces swelling, Honglian replenishes qi and tonifies deficiency, Duohuateng tonifies the kidneys and nourishes the blood, Xiuhuazhen reduces swelling and promotes diuresis, Didancao detoxifies and promotes diuresis, Dashigong nourishes yin, clears heat, and promotes diuresis, Cheqiancao promotes diuresis and treats stranguria, Huangdanmu detoxifies and reduces swelling, Qingjiao clears heat and detoxifies, Shuidingxiang promotes qi circulation and diuresis, Jiujiecha promotes qi circulation and dispels dampness, Xiaomutong promotes diuresis and diuresis, Yuyejinhua reduces swelling and promotes diuresis, Xiaoyebu promotes qi circulation and detoxification, Xiaobaibei dispels pathogenic factors and reduces

swelling, Ruangancao regulates qi and transforms dampness, Shuiyangmei detoxifies and promotes qi circulation, Daoshuilian detoxifies and dries dampness, Wuzhiniu tonifies qi and expels pathogenic factors. The combined use of these herbs can enhance vital energy, strengthen the spleen and kidneys, eliminate edema, detoxify, and expel pathogenic factors, showing good therapeutic effects in the treatment of patients with cirrhotic ascites. The combination of these herbs can collectively achieve the effects of “tonifying righteous qi, strengthening spleen and kidney, expelling water and dampness, detoxifying and dispelling evils”, when applied in the treatment of cirrhotic ascites patients, showing good therapeutic efficacy. The study results showed an effective rate of 95.00% in the observation group and 90.00% in the control group. The comparison between the two groups revealed a significant increase in the effective rate in the observation group, with statistical significance ( $P < 0.05$ ), and no adverse reactions were observed. In comparison with the control group, the observation group showed significant improvements in various liver function indicators, with statistical significance ( $P < 0.05$ ). The improvement in adverse emotions of patients in both groups also showed that after treatment, there was a significant alleviation of emotions in both groups, with a greater improvement in the observation group than the control group ( $P < 0.05$ ). The efficacy, liver function indicators, and emotional scores of the two groups all demonstrated a certain advantage of this Yao medicine formula in the treatment of cirrhotic ascites, especially in the recovery of ALT and AST ( $P < 0.05$ ), reflecting a gradual normalization of liver function in patients, gradual disappearance of ascites, and natural relief of patients’ psychological distress. In Yao medicine, the liver is considered to govern dispersion and emotions, playing a key role in the dispersion function of “qi”. When the qi flows smoothly, it can transform water and dampness, resolving ascites. At the same time, smooth liver qi can also alleviate emotions and improve adverse emotions. Therefore, the Yao medicine in this study can regulate liver function through the treatment principles of “tonifying righteous qi, strengthening spleen and kidney, expelling water and dampness, detoxifying and dispelling evils”, aligning with the Western medical concept of “improving liver function, addressing symptoms and signs, relieving adverse emotions”.

With the continuous improvement of living standards nowadays, people are increasingly focusing on mental health while paying attention to physical health. Thus, in clinical research, the effectiveness of a treatment is not only about eliminating symptoms and signs but also about alleviating the impact of adverse emotions on patients. Due to the prominent symptoms and signs of cirrhotic ascites patients, coupled with their significant fear of the unknown disease, it often leads to anxiety and subsequently depression, affecting the patients’ confidence in recovery. This study observed the psychological state and found that Yao medicine can effectively improve the patients’ psychological state. The reasons for this might be attributed to the therapy’s ability to effectively alleviate the patients’ physical symptoms, instilling greater confidence in the patients regarding the relief and even cure of the disease, thereby easing their anxiety and depression

towards the disease.

In conclusion, Yao medicine can effectively improve the physical and mental symptoms of patients with cirrhotic ascites, demonstrating good efficacy and high safety, making it worthy of clinical application and promotion. Due to the challenges in sample collection in this study, it is currently difficult to conduct large-scale data analysis. It is hoped that in future research, detailed data will be collected comprehensively to explore and improve the treatment mechanism of Yao medicine for cirrhotic ascites, providing a clearer theoretical basis for the clinical application and development of Yao medicine in treating this condition.

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## Conflicts of Interest

The authors declare no conflicts regarding the publication of this paper.

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