

Clinical Study and Value of Combining Jianpi Xiaozheng Zisheng Tang with Renshen Dahuang Tang in the Treatment of Advanced Gastric Cancer

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Abstract

Objective: To investigate the efficacy of the combination of Jiapi Xiaozheng Zisheng Decoction and Ginseng and Rhubarb Decoction in the treatment of advanced gastric cancer patients. **Methods:** Sixty patients with advanced gastric cancer admitted to our hospital from May 2022 to May 2023 were randomly divided into a control group and a treatment group, with 30 patients in each group. Both groups received standard chemotherapy. The control group was treated with Ginseng and Rhubarb Decoction, while the treatment group received the combination of Jiapi Xiaozheng Zisheng Decoction and Ginseng and Rhubarb Decoction. The therapeutic effects between the two groups were compared. **Results:** The treatment group had a significantly higher effective rate than the control group ($P < 0.05$). After treatment, the traditional Chinese medicine syndrome scores and Piper Fatigue Scale scores of the treatment group were significantly lower than those of the control group ($P < 0.05$). **Conclusion:** The combination of Jiapi Xiaozheng Zisheng Decoction and Ginseng and Rhubarb Decoction in the treatment of advanced gastric cancer patients significantly improved symptoms and effectively alleviated cancer-related fatigue.

Keywords

Gastric cancer, Jiapi Xiaozheng Zisheng Decoction, Ginseng and Rhubarb Decoction, Traditional Chinese medicine syndrome scores

Gastric cancer is a globally prevalent malignant tumor of the digestive system, with approximately 400,000 new cases in China each year, accounting for 42% of the total global incidence [1]. Although chemotherapy and radiotherapy can alleviate clinical symptoms in patients with advanced gastric cancer, they can also cause significant damage and result in weakness, fatigue, and decreased immune function, thereby affecting treatment efficacy and seriously reducing patients' quality of life. With the continuous advancement of research on traditional Chinese medicine in the field of malignant tumors, its role in the treatment has become increasingly prominent. This study primarily investigates the efficacy of the combination of Jiapi Xiaozheng Zisheng Decoction and Ginseng and Rhubarb Decoction in the treatment of advanced gastric cancer patients, as described below.

1. Materials and Methods

1.1 General Information

A total of 60 patients with advanced gastric cancer who were admitted to our hospital from May 2022 to May

2023 were selected for this study. The patients were randomly divided into a control group and a treatment group, with 30 patients in each group. The control group consisted of 18 males and 12 females, with an age range of 54 to 63 years and an average age of (59.53±5.32) years. The body mass index (BMI) of the control group ranged from 22 to 26 kg/m², with an average BMI of (23.32±1.1) kg/m². The treatment group consisted of 17 males and 13 females, with an age range of 56 to 65 years and an average age of (59.49±3.22) years. The body mass index (BMI) of the treatment group ranged from 22 to 26 kg/m², with an average BMI of (22.45±1.23) kg/m². The general characteristics of the two groups were comparable (P>0.05). This study was approved by the Ethics Committee of our hospital.

Inclusion criteria: (1) Patients who met the diagnostic criteria for gastric cancer [2]; (2) Estimated survival period of more than 3 months; (3) Willing to participate voluntarily after understanding the research methods; (4) Complete clinical data.

Exclusion criteria: (1) Patients with severe infections, blood and immune system diseases, or severe mental disorders; (2) Patients who received immunotherapy or chemotherapy prior to admission; (3) Patients with contraindications to chemotherapy.

1.2 Methods

Both groups of patients received standard chemotherapy: patients were orally administered with Tegafur capsules twice a day, after breakfast and dinner. The dosage of the medication was adjusted based on the patient's body surface area. The treatment lasted for 6 to 8 months, with a 2-week interval between each cycle.

The control group received treatment with Renshen Dahuang Tang, composed of 25g of raw rhubarb and 15g of ginseng. One dose was taken daily, divided into two administrations in the morning and evening. The medication was prepared by extracting 200ml of liquid. The treatment continued for 9 weeks.

In addition to the treatment received by the control group, the treatment group was administered Jianpi Xiaozheng Zisheng Tang. The composition of the formula included 30g of Shidachuan, 30g of Baqi, 20g of raw Coix seed, 15g of Codonopsis, 20g of Fructus Amomi, 10g each of Radix Angelicae Sinensis, Rhizoma Dioscoreae, Sclerotium Poriae Cocos, Rhizoma Atractylodis Macrocephalae, Radix Atractylodis, and Radix Paeoniae Alba, 6g of dried tangerine peel, and 3g of roasted licorice. One dose was taken daily, divided into two administrations in the morning and evening. The medication was prepared by extracting 400ml of liquid. The treatment continued for 18 weeks.

1.3 Observation Indicators

(1) Comparison of the treatment efficacy between the two groups of patients. The evaluation criteria for efficacy were as follows [3]: Cure: Symptoms and clinical manifestations completely disappeared, with a reduction of more than 95% in symptom scores; Marked improvement: Symptoms and clinical manifestations significantly improved, with a reduction of more than 70% in symptom scores; Effective: Symptoms and clinical manifestations improved, with a reduction of more than 30% in symptom scores; Ineffective: Did not meet the above criteria.

(2) Compare the traditional Chinese medicine symptom scores before and after treatment in two groups of patients, including epigastric pain, mental fatigue, poor appetite, and shortness of breath and fatigue. Each item is scored between 1 and 5, and the scores are positively correlated with the severity of symptoms [3].

(3) Compare the levels of cancer-related fatigue before and after treatment in two groups of patients. The Piper Fatigue Self-Report Scale is used to assess the levels of cancer-related fatigue, including emotions, behaviors, sensations, and cognition. The scores are positively correlated with the level of fatigue in patients.

1.4 Statistical methods

The data was analyzed using SPSS 22.0 statistical software. Metric data and count data were represented using ($\bar{x} \pm s$) and relative numbers, respectively. The t and χ^2 test were employed for comparing between the two groups, with a significance level of P<0.05 indicating statistically significant differences.

2. Results

2.1 Comparison of treatment outcomes between two groups of patients

The treatment group showed significantly higher treatment effectiveness than the control group (P<0.05). Refer to Table 1.

Table 1. Comparison of Treatment Effects in Two Groups of Patients [n, (%)]

Group	Number of cases	Cured	Significant effect	Effective	Ineffective	Total effective
Treatment group/	30	0(0)	14(46.67)	15(50.00)	1(3.33)	29(97.67)
Control group	30	0(0)	4(13.33)	17(56.67)	9(30.00)	21(70.00)
X^2						7.680
P						0.006

2.2 Comparison of traditional Chinese medicine syndrome scores before and after treatment in two groups of patients

After treatment, the treatment group exhibited significantly lower scores in all traditional Chinese medicine syndrome categories compared to the control group ($P < 0.05$). Refer to Table 2.

Table 2. Comparison of Traditional Chinese Medicine Symptom Scores Before and After Treatment in Two Groups of Patients ($\bar{x} \pm s$, score)

Group	Number of cases	Epigastric pain		Mental fatigue		Poor appetite		Shortness of breath and weakness	
		before treatment	after treatment	before treatment	after treatment	before treatment	after treatment	before treatment	after treatment
Treatment group/	30	4.81±0.75	2.57±0.35*	3.86±1.02	2.34±0.32*	3.87±0.87	1.65±0.35*	4.32±0.87	1.76±0.54*
Control group	30	4.83±0.73	3.51±0.67*	3.88±1.01	3.36±0.46*	3.86±0.89	3.53±0.66*	4.36±0.82	3.33±0.53*
t		0.105	6.811	0.076	9.970	0.044	13.784	0.183	11.365
P		0.917	<0.001	0.939	<0.001	0.965	<0.001	0.855	<0.001

Note: * $P < 0.05$ compared to before treatment.

2.3 Comparison of cancer-related fatigue levels before and after treatment in two groups of patients

After treatment, the patients in the treatment group had significantly lower scores on the Piper Fatigue Scale compared to the control group ($P < 0.05$). Refer to Table 3.

Table 3. Comparison of Cancer-Related Fatigue Levels Before and After Treatment in Two Groups of Patients ($\bar{x} \pm s$, score)

Group	Number of cases	behavior		Emotion		Sensation		Cognition	
		before treatment	after treatment	before treatment	after treatment	before treatment	after treatment	before treatment	after treatment
Treatment group/	30	5.59±1.02	2.35±0.45*	7.06±1.11	2.51±0.36*	5.87±0.84	2.61±0.71*	6.73±1.05	2.26±0.34*
Control group	30	5.61±1.01	3.64±0.58*	7.07±1.04	4.26±0.95*	5.86±0.83	3.61±0.88*	6.75±1.07	3.76±0.77*
t		0.076	9.625	0.036	9.435	0.046	4.844	0.073	9.761
P		0.939	<0.001	0.971	<0.001	0.963	<0.001	0.942	<0.001

Note: * $P < 0.05$ compared to before treatment.

3. Discussion

Although commonly used treatments such as chemotherapy, radiation therapy, and surgery can to some extent inhibit the progression of tumors in gastric cancer patients, these treatments also have a significant impact on patients' physical pain and overall quality of life. Improving disease control and quality of life for advanced gastric cancer patients is a key focus of clinical research.

In traditional Chinese medicine, gastric cancer is classified into categories such as "stomach pain," "belching," and "gastric reflux" based on clinical symptoms, with spleen and stomach qi deficiency considered as the main pathological mechanism. In this study, the treatment group showed significantly better treatment outcomes compared to the control group. After treatment, patients in the treatment group had significantly lower symptom scores than those in the control group. The combination of Renshen Dahuang Tang (Ginseng and Rhubarb Decoction), which has the function of strengthening the stomach and replenishing the spleen, and Jianpi Xiaozheng Zisheng Tang (Tonifying the Spleen and Resolving Stagnation Decoction), which has the effects of nourishing the spleen, invigorating the stomach, improving qi deficiency, and eliminating pathogenic factors, effectively reduced the toxic side effects of chemotherapy and improved treatment outcomes, leading to effective improvement of patient symptoms. Zhang Wenting et al. [4] stated that the application of Renshen Dahuang Tang in advanced gastric cancer patients can alleviate the toxic side effects of chemotherapy and reduce gastrointestinal reactions. In this study, the fatigue scores related to cancer in the treatment group were significantly lower than those in the control group. The combined use of these two medications not only effectively improved the disease symptoms but also reduced the adverse effects of chemotherapy on patients, which was beneficial in alleviating patient discomfort and improving patient tolerance. It played a positive role in reducing cancer-related fatigue in patients.

In summary, the combination of Jianpi Xiaozheng Zisheng Tang and Renshen Dahuang Tang in the treatment of advanced gastric cancer patients can effectively improve disease symptoms, reduce cancer-related fatigue, and improve patients' quality of life. It has a high value in promoting its application.

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