

## EFFECT OF YIQI YANGYIN HUATAN RECIPE COMBINED WITH XELOX CHEMOTHERAPY ON IMMUNE FUNCTION IN PATIENTS WITH COLORECTAL CANCER SURGERY

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### ABSTRACT

**Objective:** To observe the efficacy of Yiqi Yangyin Huatan Recipe in colorectal cancer patients during postoperative chemotherapy.

**Methods:** Sixty patients with colorectal cancer surgery were randomly divided into control group and experimental group according to the serial number generated by rand function. The control group was treated with conventional chemotherapy regimen after colorectal cancer surgery, while the experimental group was given Yiqi Yangyin Huatan Recipe on the basis of chemotherapy-based treatment.

**Results:** The experimental group treated with Yiqi Yangyin Huatan Recipe had superior QOL (quality of life assessment) and KPS (functional status) than the control group treated with chemotherapy alone ( $P < 0.05$ ). In terms of immune function: In the evaluation of T lymphocyte subsets before and after the experiment, comparison between the experimental group and the control group and intra-group comparison of the experimental group showed that  $CD4^+$ ,  $CD4^+/CD8^+$ , and  $CD3^+$  significantly increased ( $P < 0.05$ ), and  $CD8^+$  showed a comparative advantage of significant decrease ( $P < 0.05$ ), with significant improvement in immune function. In comparison of general data (age, gender) and change in body weight, performance of the experimental group and the control group showed no comparative significance ( $P > 0.05$ ).

**Conclusion:** Yiqi Yangyin Huatan Recipe can improve post-chemotherapy immune function and quality of life QOL during chemotherapy of colorectal cancer patients, which provides theoretical support for clinical application of Yiqi Yangyin Huatan Recipe in postoperative chemotherapy of colorectal cancer surgery.

**Keywords:** Yiqi Yangyin Huatan Recipe, post-operation of colorectal cancer surgery, immune function, XELOX chemotherapy regimen, traditional chinese medicine.

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### Introduction

In recent years, due to the combined action of environmental changes, improvement of living standards and various other factors, China has shown an upward trend. In the study confirming the diagnosis of colorectal cancer, it has now occupied an important proportion in malignant tumors. Data from the National Cancer Registry 2014 show that it has accounted for 9.60% of new cases among all malignancies<sup>(1)</sup>. Although the disease has stabilized overall morbidity, the gradually increasing mortality has still perplexed all humans and the medical community<sup>(2)</sup>. Since the factors leading to the onset

of colorectal cancer are synergistic and multifactorial, it is quite difficult to obtain effective and clear methods for prevention of this disease at present. It is only possible to have early discovery as far as possible and then give surgical treatment as the main supplemented with a variety of combined therapies like chemoradiotherapy, targeting and immune therapy in the early and middle onset stages of colorectal cancer. At present, most of the colorectal cancer with metastasis is incurable at home and abroad. The main treatment is chemotherapy. Immunotherapy<sup>(3-4)</sup> is also a recent hot method. For patients at the stage of early localized intra-abdominal metastasis, there is possibility of healing via surgery. TCM has a long

history in cognition of colorectal cancer and a wealth of research data has been preserved over the years, accumulating a wealth of clinical experiences and diagnosis and treatment ideas. Recent years witness considerable contribution of Chinese medicine to clinical treatment of colorectal cancer, with remarkable achievements made.

With the accumulation of experiences in clinical study by major doctors and the continuous digging and analysis of traditional Chinese medicine by modern means, consensus is gradually reached on traditional Chinese medicine's positive role in relieving clinical symptoms of colorectal cancer patients, reducing the chances of disease metastasis and recurrence, increasing patients' sensitivity to radiotherapy and chemotherapy in conventional postoperative treatment, reducing drug resistance and improving autoimmune ability, improving patients' low quality of life during illness and prolonging the survival time of advanced patients. Therefore, strengthening the treatment of this disease by traditional Chinese medicine has recently become a research hotspot in comprehensive treatment of tumors.

In this study, self-made Yiqi Yangyin Huatan recipe was used for combined treatment of 30 colorectal cancer patients during postoperative chemotherapy. The quality of life, functional status and T lymphocyte subsets were evaluated and compared with the 30 patients treated with chemotherapy alone to obtain significantly different correlation data. The analysis report is now made as follows.

## Data and methods

### General data

The 60 patients treated in anorectal hospital of the First Affiliated Hospital of Guizhou University of Traditional Chinese Medicine from January 2018 to January 2019 were randomly divided into two groups, each with 30 patients. Where, the male to female ratio was 35:25; the average age was 65 years, and the age range was 60-71 years. All patients had real and reliable clinical medical records, and had rigorous examination data to support their condition diagnosed as colorectal cancer. The patients met TNM staging of stage II, III in Western medicine diagnosis, including 18 cases in stage II and 42 cases in stage III. Based on TCM syndrome differentiation, the patients met the two TCM diagnosis classifications of Qi and Yin deficiency and internal phlegm poisoning. After the colorectal cancer surgery, the patients themselves and their families agreed and were willing to select

XELOX chemotherapy regimen as the future follow-up treatment. The patients were mainly within 2 months after surgery. The 60 patients showed no significantly different gap in comparison of general data like age and gender ( $p>0.05$ ). Hence, this study excluded the influencing factors of basic materials. The experimental group shows comparability when compared with the control group. This study was conducted after the patients and their families signed the relevant documents like informed consent, and the study was approved by the Ethics Committee of the First Affiliated Hospital of Guizhou University of Traditional Chinese Medicine after application.

### Diagnosis and syndrome differentiation standards

The diagnosis of colorectal cancer in Western medicine is performed according to the "WHO Pathology and Genetics of Tumors of Digestive System"<sup>(5)</sup>; TCM syndrome differentiation criteria refer to the colorectal cancer standards in the "Chinese Standard for Traditional Chinese Medicine: Guidelines for the Diagnosis and Treatment of Cancer in Traditional Chinese Medicine".

The two syndrome differentiation classifications of TCM are adopted: Qi and Yin deficiency and internal phlegm poisoning. Manifestation of main symptoms: dry mouth and throat, flushing of both cheek bones, dysphoria in chestpalms-soles, continuous abdominal pain, weak breath and fatigue, dry stool, yellow urine.

Manifestation of secondary symptoms: shortness of breath, low voice, chest tightness, nausea, emaciation with mental fatigue, or dizziness, hot flashes, night sweats, indigestion and loss of appetite, inability to perform normal bowel movements. Tongue pulse condition: Tongue is not red, with little or no moss, and pulses are thin or slippery. Diagnosis can be made if there are 3 main symptoms or 2 main symptoms with 2 secondary symptoms.

### Inclusion criteria:

- Those having real and reliable clinical medical records, and rigorous test data can be used to support diagnosis as colorectal cancer;
- Those meeting the diagnosis of western medicine, with stage II, III in TNM staging (preoperatively evaluated as cT1-2N0M0, postoperative pathological examination suggests pT3-4N0M0);
- Those with syndrome meeting Qi and Yin deficiency or internal phlegm poisoning;
- Those agreeing to undergo XELOX chemother-

apy within 2 months after colorectal cancer surgery.

There is no special requirement for other data, with no special restrictions on the background.

#### *Exclusion criteria:*

- Patients with second tumors (except those with colorectal cancer metastasis);
- Patients with chronic wasting diseases previously or concurrently;
- Patients with infectious diseases;
- Patients with immune deficiency and drug allergies (including traditional Chinese medicine);
- Patients with blood disease or coagulopathy.

#### *Medication method*

##### *Control group*

XELOX chemotherapy was given according to conventional medical scheme. On the first day after colorectal cancer surgery, a standard dose of 130 mg/m<sup>2</sup> was used for treatment. The specific method was intravenous drip of oxaliplatin OXA; from the first day to the second week, capecitabine CAP was taken orally twice a day at a dose of 1000 mg/m<sup>2</sup>, which was repeated once every three weeks. The efficacy was evaluated after two courses of treatment.

##### *Experimental group*

Patients took Yiqi Yangyin Huatan recipe orally according to the doctor's advice. During chemotherapy: Radix Actinidiae chinensis 50g, astragali radix 30g, atractylodes 15g, radix rehmanniae recen 15g, radix pseudostellariae 20g, glossy privet fruit 15g, Rhizoma Pinellinae Praeparata 10g, tangerine peel 10g, bile arisaema 15g, air potato 15g, Oldenlandia diffusa 20g, Poria cocos 15g, common yam rhizome 15g, lucid ganoderma 30g, Angelica sinensis 10g, peach kernel 10g, Oldenlandia diffusa 20g, licorice roots northwest origin 6g. 300 mL was decocted per dose daily. 150 mL was taken half an hour after breakfast and dinner for 2 consecutive weeks under observation.

#### *Criteria of curative effect*

##### *Quality of Life Assessment (QOL)*

60 patients were evaluated once before and after treatment according to quality of life scale for cancer patients, including 1 overall health status and 6 single items (shortness of breath, difficulty sleeping, decreased appetite, constipation, diarrhea, economic difficulties). Each field has a score of 0-100 points (standardized score: SS). The disease is negatively correlated with treatment-related symptom score. A

higher score indicates more symptoms or problems, which means poorer quality of life. Functional areas are positively correlated with overall health score, and quality of life increases with it.

#### *Functional Status (Karnofsky, KPS) Score*

Evaluation was made based on KPS score results. The results were classified into three cases: improvement (increased by 10 points or more), stable (decreased or increased by less than 10 points) and deterioration (decreased by 10 points or more).

#### *Weight evaluation*

Measurement was taken once before and after the treatment. Weight loss after treatment should be less than 2 kg, and weight gain was considered as greater than 2 kg. The fluctuation value should be controlled within 2 kg.

#### *Immune function*

Evaluation was performed after 2 cycles of treatment. For the experimental group and the control group, before and after adjuvant treatment, 4ml/person of peripheral venous blood was taken in the early morning from the 60 patients on an empty stomach. FACSCalibur flow cytometer(produced by BD, USA) was used to measure and compare changes in T lymphocyte populations (CD4<sup>+</sup>, CD8<sup>+</sup>, CD4<sup>+</sup>/CD8<sup>+</sup>, CD3<sup>+</sup>). Ensure that blood samples were tested within 4 hours.

## **Results**

#### *Gender*

It can be known from Table 1 that the gender of the two groups is not statistically different after Chi-square test ( $P>0.05$ ), and the data of the two groups is comparable.

Group	Experimental group	Control group
Number of cases	30	30
Male	18 (60.0%)	17 (56.7%)
Female	12 (40.0%)	13 (43.3%)
$\chi^2$	6.857	
P	0.793	

**Table 1:** Gender comparison of patients in experimental group and control group.

#### *Age*

As can be known from Table 2, there is no statistically significant difference between the experimental group and the control group in terms of patient age after t test ( $P>0.05$ ).

Group	Experimental group	Control group
Number of cases	30	30
Age (year) ( $\bar{x}\pm s$ )	60.12±11.13	56.15±8.12
$\chi^2$	1.578	
P	0.119	

**Table 2:** Age comparison between the two groups.

**Quality of life assessment (QOL)**

It can be concluded from Table 3 that: Comparison between the control group and the treatment group shows a difference in quality of life before and after treatment. That is, we can conclude that after treatment, QOL score of the control group remains unchanged, but QOL of the experimental group is increased.

Group	Number of cases	Before treatment	After treatment	t	p
Control group	30	68.27±12.42	70.10±11.70	-0.606	0.549
Experimental group	30	70.28±14.19	79.70±11.93	-2.334	0.027
t		-0.579	-3.146		
P		0.565	0.003		

**Table 3:** Comparison of QOL scores between the control group and the experimental group before and after treatment.

**KPS score comparison**

According to Table 4, after treatment, KPS score of the control group remains unchanged, while KPS of the experimental group is increased.

Group	Number of cases	Before treatment	After treatment	t	p
Control group	30	75.67±5.68	76.67±7.58	-0.619	0.541
Experimental group	30	78.00±5.51	82.67±6.91	-2.536	0.017
t		-1.615	-3.203		
P		0.112	0.002		

**Table 4:** Comparison of functional status scores in the two groups before and after treatment.

**Weight evaluation**

According to the results in Table 5, in chi-square test to compare the two groups of patients before and after treatment,  $\chi^2=1.011$ ,  $P=0.603 > 0.05$ , so the difference is not statistically significant ( $P > 0.05$ ).

Group	Number of cases	Increased	Stable	decreased	$\chi^2$	P
Experimental group	30	5 (16.67)	17 (56.67)	8 (26.67)	1.011	0.603
Control group	30	3 (10.00)	16 (53.33)	11 (36.67)		

**Table 5:** Comparison of body weight changes between the two groups.

**Determination of immune function before and after treatment**

According to the results in Table 6, in comparison of immune function between the experimental group and the control group before and after treatment: The intra-group differences before and after treatment are statistically significant for both experimental group and control group ( $P^* < 0.05$ ); The inter-group difference between the experimental group and the control group is also statistically significant ( $P^{*#} < 0.05$ ).

Group	Number of cases	Time	CD4 <sup>+</sup> (%)	CD8 <sup>+</sup> (%)	CD4 <sup>+</sup> /CD8 <sup>+</sup>	CD3 <sup>+</sup> (%)
Experimental group	30	Before treatment	35.32±5.52	24.19±6.33	1.64±0.65	66.35±8.03
	30	After treatment	41.26±6.55 <sup>*#</sup>	20.29±1.98 <sup>*#</sup>	2.09±0.53 <sup>*#</sup>	72.33±2.85 <sup>*#</sup>
Control group	30	Before treatment	35.70±6.90	23.78±6.33	1.69±0.73	67.56±9.02
	30	After treatment	30.49±2.17 <sup>*</sup>	29.31±4.50 <sup>*</sup>	1.08±0.24 <sup>*</sup>	61.74±3.76 <sup>*</sup>

**Table 6:** Comparison of T lymphocyte subsets before and after treatment in the two groups [n (%)].

**Analysis**

**Analysis of research basis, etiology and pathogenesis**

Chinese medicine has a long history in cognition of colorectal cancer, leaving a lot of referential clinical data and TCM theory support for its treatment. It has been found in perennial clinical experience that the disease is located in large intestine, which is closely related to the spleen and kidney. Its pathology features deficient root and excessive superficiality, with phlegm dampness and internal viscosity, internal toxin as its symptom, and deficiency of vital energy as its condition. Therefore, the main pathogenesis associated with the disease occurrence is qi and yin deficiency, and internal phlegm poisoning. Modern medical doctors have different cognitions on the syndrome differentiation and treatment of colorectal cancer. Each medication has its advantages and new perspectives are expanded and provided on the basis of predecessors.

Liu Weisheng et al.<sup>(6)</sup> believed that the disease has different stages. The early syndromes are mainly caused by qi stagnation, blood stasis and damp heat, while the later syndromes are caused by insufficiency of both the spleen and the kidney, deficiency of liver-yin and kidney-yin. Qi and blood deficiency are the major etiology and pathogenesis that should be targeted. An Zhentao et al.<sup>(7)</sup> specifically determined colorectal cancer treatment on the basis of pattern types, who believed that colorectal cancer is mainly

divided into specific syndromes including deficiency weakness of spleen-qi, retention of damp-heat in the interior, Qi and blood deficiency, deficiency of liver-yin and kidney-yin, Qi stagnation and blood stasis. Jiang Yilan et al.<sup>(8)</sup> believed that for colorectal cancer treatment, body resistance should be strengthened to eliminate pathogenic factors in the early stage, focus should be given to reducing toxicity and enhancing efficacy in the middle and advanced stage of colorectal cancer, while strengthening the body resistance and internal and external application are needed for advanced patients. In addition, many doctors emphasize holistic treatment in terms of colorectal cancer treatment. It is revealed that colorectal cancer is essentially demonstrated as deficient root and excessive superficiality, with intermingled deficiency and excess. Hence, strengthening the body resistance, spleen and stomach must be emphasized.

Meanwhile, theory of "pass through" should be adhered and regulating qi and removing stasis, and micro regulation should be taken as the main treatment principles and methods. At the same time, many researchers believe that colorectal cancer treatment should start from tongue and pulse in traditional Chinese medicine, then objective research should be conducted to sort out tongue and pulse diagnosis and treatment results of colorectal cancer in traditional Chinese medicine, thus providing theoretical basis for the diagnosis and treatment of colorectal cancer in traditional Chinese medicine. Zeng Wei et al.<sup>(9)</sup> believed that traditional Chinese medicine have always been based on syndrome differentiation and treatment from ancient times, syndrome differentiation and disease differentiation should be combined for colorectal cancer treatment. Colorectal cancer treatment should be treated in view of diversity of Chinese medicine types and drug delivery routes. Chinese medicine treatment of colorectal cancer should start from various stages. Some scholars believe that colorectal cancer treatment should start from the etiology and pathogenesis.

Considering physiological characteristics of the six fu organs and based on guiding ideology of combining syndrome differentiation with disease differentiation, the idea of "clearing heat without fear of interior warmth, achieving unblocked transmission of intestines" was put forward regarding the effect of modern pharmacology on colorectal cancer. It is not difficult to conclude that colorectal cancer treatment must be based on syndrome differentiation and treatment, with different emphasis on treatment according to different stages of disease development.

This study is mainly to treat and observe colorectal cancer patients, so Yiqi Yangyin Huatan recipe was selected as the major protocol.

### ***The composition of Yiqi Yangyin Huatan Recipe and the drugs that have an effect on immune function***

Pharmaceutical composition of Yiqi Yangyin Huatan Recipe Guided by the basic theory of traditional Chinese medicine and based on years of clinical experiences, this study proposed Yiqi Yangyin Huatan Recipe for adjuvant therapy in patients after colorectal cancer surgery and observed the clinical efficacy in view of postoperative patients' characteristics of Qi and yin deficiency, internal phlegm poisoning. The main composition of Yiqi Yangyin Huatan Recipe is shown in the following table. Its effects: tonifying qi and yin, reducing phlegm and detoxification.

Type	Composition	Efficacy
Monarch drug	Radix Actinidiae chinensis	Clear away heat and toxic materials, quicken the blood and disperse swelling, dispel wind and dampness
Ministerial drug	Astragali radix	Fortify the spleen and supplement qi, invigorate qi for consolidating superficies
	Atractylodes	Tonify qi and spleen, eliminate dampness and promote diuresis, hydroschesis
	Radix rehmanniae recen	Nourish yin and blood, clear heat to promote salivation
Adjuvant	Glossy privet fruit	Nourish liver and kidney
	Radix pseudostellariae	Replenish qi to invigorate the spleen, promote fluid production to nourish lung
	Rhizoma Pinellinae Praeparata	Eliminate dampness and phlegm
Conductant drug	Tangerine Peel	Eliminate dampness and phlegm, regulate qi-flowing for strengthening spleen
	Bile arisaema	Clear fire and dissipate phlegm
	Air potato	Cooling blood and hemostasis, disperse swelling and toxin, dissipate phlegm and disperse stasis
	Oldenlandia diffusa	Quicken the blood and disperse swelling, clear away heat toxin, promote diuresis and relieve pain
	Poria cocos	Tonify spleen, calm mind and spirit, clear dampness and promote diuresis
	Common yam rhizome	Tonify spleen and lung, reinforce the kidney, boost essence
	Lucid ganoderma	Invigorate qi for tranquilization
	Angelica sinensis	Promote blood circulation, nourish blood and remove blood stasis
	Peach kernel	Activate blood circulation and remove stasis, relax bowels
Licorice roots	Invigorate spleen and replenish qi, clear away heat and toxic materials, moderate the property of herbs	

**Table 2-13:** Drug composition and compatibility.

The main feature of the recipe is that while focusing on tonifying qi, nourishing kidney yin, dual regulation of qi and blood, it does not forget to remove phlegm and dampness so that effects of tonifying qi and yin, detoxification and phlegm resolving can be achieved. Analysis on the function of main single drugs in fighting tumors and improving immunity Radix Actinidiae chinensis: There has been introduction of Radix Actinidiae chinensis since the Song Dynasty. "Kiwi fruit is sour, sweet, cold and non-toxic." Recording in "Classified Materia Medica" states that Radix Actinidiae chinensis has a sour taste, which is sweet and cold in nature, with no toxic effect. A large number of studies at this stage have proved that Radix Actinidiae chinensis has the ability to inhibit and weaken the proliferation of cancer cells, especially in some malignant tumors such as lung cancer, liver cancer, colorectal cancer, etc. with remarkable efficacy shown. Second, Radix Actinidiae chinensis extract can inhibit the proliferation of colorectal cancer tumor cells and promote apoptosis through internal mechanism of the body.

Third, it can block the cell cycle. Fourth, it can accelerate cell aging. Fifth, in the process of malignant tumor treatment, most failure is due to cancer cell metastasis. In terms of treatment and control of tumor cell metastasis, Chinese medicine demonstrates strong advantages. Astragalus membranaceus: Astragalus membranaceus is a perennial herb with sweet taste and warm nature. Its common effects are to tonify qi and lift yang, invigorate spleen, invigorate qi for consolidating superficies.

It also has nonnegligible effects in draining pus and expelling toxin, promoting tissue regeneration. Modern pharmacology has found astragaloside with antitumor effects in Astragalus membranaceus studies. In addition, its possessed astragalus polysaccharides are also its main components for antitumor. A large number of studies have found that Astragalus membranaceus plays a nonnegligible important role in improving immune function<sup>(10)</sup>. Atractylodes: Its reputation as "the first essential medicine for invigorating the spleen and supplementing qi" lets it take an important position in the clinical application of traditional Chinese medicine. With warm nature and bitter taste, it mainly acts on spleen and stomach, not only exerting functions of replenishing qi to invigorate the spleen, eliminating dampness and promoting diuresis as well as hydroschesis, but also having effects of relaxing bowels and regulating gastroenteric function. In today's clinical medicine, atractylodes with a wide range of efficacy has been considered

as an indispensable Chinese medicine for tumors, benefiting patients with digestive tumors such as esophagus and stomach cancer and lung cancer. On the other hand, a series of studies have shown that Atractylodes has multiple effects in enhancing the body's immunity, promoting gastrointestinal digestion and inhibiting bacterial infections<sup>(11)</sup>.

Through related studies, we can know that Atractylodes is basically composed of volatile oil, lactone and polysaccharide compound. In particular, volatile oils play an important role in preventing further reproduction and development of animal tumors. Glossy privet fruit: as one effective tonic Chinese medicine, it is mainly a mature fruit obtained after drying. Its main effects are settling five organs, nourishing the spirit, strengthening the middle warmer and removing all diseases. Modern medicine holds different views on abnormal manifestations of many inflammations and immune functions. Abnormal manifestations of inflammation and immune functions are considered as pathological and physiological manifestations of common diseases including tumors. In the mechanism and process of anti-non-specific inflammation, anti-allergic inflammation and anti-tumor proliferation, its main active ingredients are basically composed of salidroside, tyrosol, hydroxytyrosol, oleanolic acid, ursolic acid and polysaccharides. Therefore, it boasts very high medicinal and health care value and can be developed into new anti-inflammatory and anti-tumor drug after in-depth research<sup>(12)</sup>. Radix pseudostellariae: acting on spleen and lung, it has sweat and slight bitter taste in neutral nature. Its effects are replenishing qi to invigorate the spleen, promoting fluid production to nourish lung. Studies have found that Radix Pseudostellariae can alleviate patients' stress state, eliminate fatigue, inhibit the occurrence of oxidative reactions, reduce blood glucose and lipids, and provide body immunity<sup>(13)</sup>. In postoperative diagnosis and treatment, cancer patients are often prone to side effects such as fatigue, weakness, bone marrow suppression, poor appetite, nausea and vomiting, stool irregularities and hair loss. Addition of Radix Pseudostellariae often effectively alleviates the side effects caused by chemotherapy or molecular targeted drug therapy, thereby reducing the physical and physiological pain of patients. Therefore, it is often used in advanced cancer. Lucid ganoderma: as a prestigious Chinese medicine at home and abroad, it can tonify qi, calm the nerves and lower blood pressure. Studies have found that Lucid ganoderma features the ability to promote the function of mononuclear macrophage and natural killer cells.

Moreover, it can inhibit the immune escape response of tumor cells and enhance killing activity of immune cells against tumor cells. Licorice root: Glycyrrhiza polysaccharide extracted from licorice root has been demonstrated by a large amount of research data to have "two-way" immunoregulatory and antitumor effects<sup>(14)</sup>.

## Conclusion

Modern Chinese medicine has developed to study the pathogenesis of cancer, and detoxification has become an important postoperative means for treating colorectal cancer. The clinical exploration of TCM tumors has expanded the role of traditional Chinese medicine resources in detoxification and treatment of colorectal cancer. Application of Yiqi Yangyin Huatan Recipe in the clinical treatment of tumors has demonstrated it as a clinically significant anti-cancer Chinese medicine. Through the rational use of traditional Chinese medicine and combination of modern chemotherapy, clinical efficacy of colorectal cancer surgery has been significantly elevated. This study indicates that Yiqi Yangyin Huatan Recipe has fully exerted its efficacy in the postoperative adjuvant treatment of colorectal cancer, highlighting the superior effect of traditional Chinese medicine. It is especially manifested in the improvement of patients' postoperative quality of life, improvement in patients' basic functional status and improvement of patients' autoimmune functions.

In postoperative treatment of colorectal cancer, by assessing changes in T lymphocyte subsets, Yiqi Yangyin Huatan Recipe-based chemotherapy regimen proposed based on the principles of tonifying qi and yin and resolving phlegm and detoxification has strongly proved that Yiqi Yangyin Huatan Recipe has significant effect and clinical value in improving patients' autoimmune status as adjuvant therapy after colorectal cancer surgery. In particular, it can improve patients' immune function, adjust patient's physique, thus providing referential medication advice for future clinicians, which offers a new option for patients and their families facing unsatisfactory postoperative body function<sup>(15-30)</sup>.

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