

# Clinical Observation on the Curative Effect of Qingre Xiayi Decoction as Adjuvant Treatment for the Early Stage of Severe Acute Pancreatitis

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**Abstract:** *Objectives:* To explore the clinical application value of Qingre Xiayi Decoction in the initial treatment of severe acute pancreatitis (SAP). *Methods:* A total of 60 patients with SAP were randomly divided into a control group and an observation group by the random number table method, with 30 cases in each group. The control group was treated with conventional Western medicine, while the observation group was treated with oral Qingre Xiayi Decoction on the basis of conventional Western medicine. The Acute Physiology and Chronic Health Evaluation II (APACHEII) score, Visual Analogue Scale (VAS) score, time to abdominal pain relief, time for serum amylase to return to normal, TCM syndrome score, total treatment effective rate, and imaging changes were compared between the two groups before treatment and 3 days after treatment. *Results:* The total effective rate of the observation group (100%) was significantly higher than that of the control group (80%), and the difference was statistically significant ( $P < 0.05$ ). After treatment, the APACHEII score and VAS score of the observation group were lower than those of the control group, the time for serum amylase to return to normal and the time to abdominal pain relief were shorter than those of the control group, and the TCM syndrome score was also lower than that of the control group. All the above differences were statistically significant ( $P < 0.05$ ). Imaging examination showed that the degree of improvement in the observation group was more obvious than that of the control group. *Conclusion:* Conventional Western medicine combined with Qingre Xiayi Decoction in the treatment of patients with initial SAP can significantly improve the therapeutic effect, relieve clinical symptoms and optimize related indicators, which is worthy of clinical promotion and application.

**Keywords:** Clinical efficacy; Severe acute pancreatitis; Qingre Xiayi decoction; Integrated traditional Chinese and Western medicine therapy

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## 1. Introduction

Acute pancreatitis is a common critical acute disease in the digestive system, characterized by sudden, severe epigastric pain accompanied by nausea, vomiting, fever, and other typical manifestations. Its progression can lead to systemic inflammatory response syndrome and multiple organ dysfunction, posing a serious threat to patients' lives <sup>[1]</sup>. Epidemiological data show that the incidence of acute pancreatitis in China is increasing year by year, and approximately 20% of patients may progress to severe acute pancreatitis (SAP). SAP is marked by an acute onset, severe condition, high incidence of complications, and a mortality rate as high as 13%–35%, representing considerable challenges in clinical diagnosis and treatment <sup>[2]</sup>. Current conventional Western medicine treatment mainly consists of fluid resuscitation, inhibition of pancreatic enzyme secretion, anti-infection therapy and symptomatic support, which serves as the basic regimen to control disease progression. However, it still has certain limitations in rapidly relieving clinical symptoms, blocking excessive inflammatory response, alleviating secondary injury to pancreatic tissue, and reducing the risk of severe transformation and complications. In Traditional Chinese Medicine (TCM), early-stage acute pancreatitis falls into the categories of “Abdominal Pain” and “Splenic Heart Pain”, with the core pathogenesis of Qi-blood stagnation and obstruction, as well as exuberance of pathogenic factors. Guided by the theory that “the fu-organs function well with unobstruction, and unobstruction relieves pain”, the core therapeutic principles are purgating fu-organs to clear heat, regulating Qi to activate blood, and dispelling pathogenic factors to remove stagnation, which can targetedly improve Qi stagnation and eliminate stagnation of pathogenic factors. Modern clinical studies have confirmed that early combined intervention with TCM on the basis of standardized Western medicine treatment can achieve complementary advantages and synergistic effects. It not only ensures the stability of basic treatment, but also exerts the unique advantages of TCM in rapidly purgating fu-organs to lower rebellion, regulating inflammation and protecting organ function, effectively improving the overall efficacy, shortening the course of disease, and reducing the risks of complications and severe progression <sup>[3]</sup>.

Based on the above, this study adopted Qingre Xiayi Decoction combined with conventional Western medicine treatment for patients in the early stage of SAP. Through clinical controlled observation of efficacy and safety, it aims to provide an objective basis for further optimizing the integrated traditional Chinese and Western medicine diagnosis and treatment regimen for severe acute pancreatitis.

## 2. Materials and methods

### 2.1. General data

A total of 60 patients with early-stage severe acute pancreatitis (SAP) admitted to the Department of Gastroenterology, Shanghai General Hospital, Shanghai Jiao Tong University School of Medicine from October 2023 to October 2025 were enrolled in this study. They were divided into an observation group and a control group using the random number table method, with 30 cases in each group. In the control group, there were 17 males (56.7%) and 13 females (43.3%), with a mean age of  $59.43 \pm 13.50$  years old, a mean disease course of  $2.56 \pm 2.55$  days, and a mean length of hospital stay of  $10.77 \pm 5.87$  days. In the observation group, there were 14 males (46.67%) and 16 females (53.33%), with a mean age of  $61.93 \pm 15.54$  years, a mean disease course of  $3.20 \pm 3.65$  days, and a mean length of hospital stay of  $8.90 \pm 3.21$  days. There were no statistically significant differences between the two groups in baseline data, including age, gender, disease course, and length of hospital stay ( $P > 0.05$ ), as detailed in **Table 1**, indicating that the two groups were comparable. This study was reviewed and approved

by the Medical Ethics Committee of Shanghai General Hospital (Ethics Approval No.: 20250421044307065). All patients and their family members provided informed consent and signed the written informed consent form.

**Table 1.** Comparison of general data between the two groups [(%), ( $\bar{x} \pm s$ )]

Group	n	Sex		Age/years	Disease course/days	Length of hospital stay/days
		Male	Female			
Control group	30	17 (56.7)	13 (43.3)	59.43 ± 13.50	2.56 ± 2.55	10.77 ± 5.87
Observation group	30	14 (46.67)	16 (53.33)	61.93 ± 15.54	3.20 ± 3.65	8.90 ± 3.21
$\chi^2/t$			1.684	-0.665	-0.780	1.528
<i>P</i>			0.194	0.509	0.439	0.133

## 2.2. Diagnostic criteria

### 2.2.1. Western medicine diagnostic criteria

The diagnostic criteria were formulated with reference to the Guidelines for Acute Pancreatitis (Revised Edition) issued by the International Association of Pancreatology (IAP) in 2025 [4]. The diagnostic criteria include: (1) Persistent upper abdominal pain (which may radiate to the lower back) as the core symptom; (2) Serum amylase or lipase level  $\geq 3$  times the upper limit of normal; (3) Abdominal imaging showing typical imaging features of acute pancreatitis (serum lipase has higher specificity). A confirmed diagnosis requires meeting at least 2 of the above 3 criteria. Disease severity was classified into mild, moderately severe, and severe acute pancreatitis according to the Revised Atlanta Classification (RAC). Severe acute pancreatitis was defined as persistent organ dysfunction ( $> 48$  hours).

### 2.2.2. TCM diagnostic criteria

TCM diagnostic criteria were based on the Expert Consensus on Traditional Chinese Medicine Diagnosis and Treatment of Acute Pancreatitis (2023) [5]. The TCM syndrome differentiation was DampnessHeat in Liver and Gallbladder Pattern: Major symptoms: abdominal distension and pain, unsmooth and sticky stool; Minor symptoms: chest distress, fever, dry mouth, scanty dark urine, jaundice of the body and eyes, etc. Diagnosis required meeting one of the following conditions: (1) 2 major symptoms + 2 minor symptoms; (2) 1 major symptom (abdominal distension and pain) + 3 minor symptoms.

## 2.3. Inclusion and exclusion criteria

### 2.3.1. Inclusion criteria

- (1) First diagnosis, acute onset confirmed within 72 hours of admission;
- (2) Age 16–85 years old;
- (3) Normal mental state, no psychiatric abnormalities;
- (4) Informed consent signed by patients and their family members;
- (5) Meeting any 1 of the following criteria within 72 hours of admission: age  $> 60$  years old, Body Mass Index (BMI)  $> 30$ , Acute Physiology and Chronic Health Evaluation II (APACHE II) score  $\geq 8$ , Hematocrit (HCT)  $> 45\%$ , Systemic Inflammatory Response Syndrome (SIRS) score  $> 2$ , presence of pleural effusion or atelectasis, pancreatic necrosis  $> 30\%$  on admission CT, Balthazar Grade D or E.

### **2.3.2. Exclusion criteria**

- (1) Severe hypertension or diabetes with poor pharmacological control;
- (2) Complicated with severe primary diseases of the respiratory, cardiovascular, cerebrovascular, digestive or hematological systems, or with mental illness or infectious diseases;
- (3) Critically ill condition requiring nonmedical interventions such as surgery or peritoneal lavage;
- (4) Age < 18 years old or > 85 years old;
- (5) Patients with advanced malignant tumors;
- (6) Chronic renal failure caused by organic renal disease;
- (7) Participation in other clinical trials within 3 months before disease onset.

## **2.4. Treatment protocol**

### **2.4.1. Control group**

Patients received treatment according to the principles of comprehensive medical management for acute pancreatitis: conventional treatments including fasting, early aggressive fluid resuscitation, continuous gastrointestinal decompression (if necessary), acid suppression, enzyme inhibition, antibiotics (if necessary), nutritional support (if necessary), maintenance of water/electrolyte balance, and fluid infusion for infection prevention.

### **2.4.2. Observation group**

On the basis of the treatment administered to the control group, patients additionally received Qingre Xiayi Decoction orally. Prescription composition: Rhubarb 15 g, Mirabilite 10 g, Immature bitter orange 12 g, Magnolia bark 15 g, Bupleurum 15 g, Dandelion 30 g, Capillary wormwood 30 g, Giant Knotweed 15 g, *Szechwan lovage rhizome* 15 g, *Salvia miltiorrhiza* 30 g. All Chinese herbal medicines were uniformly procured and provided by the hospital, and were decocted by standard hospital procedures before administration.

### **2.4.3. Specimen collection and processing**

Patients were evaluated within 24 hours after admission, and treatment was initiated immediately in those meeting the inclusion criteria. Physical health status and pain intensity scores were recorded before and after treatment; serum levels of CReactive Protein (CRP), amylase and lipase were measured; time to abdominal pain relief was observed; imaging scans were collected before and after treatment.

## **2.5. Observation indicators**

### **2.5.1. Clinical symptoms**

Basic disappearance of major symptoms, including abdominal pain, abdominal distension, fever, nausea and vomiting; relief or disappearance of major signs, including abdominal tenderness, rebound tenderness and abdominal muscle rigidity. Abdominal pain, abdominal distension and radiation pain to the lower back were documented periodically during ward rounds.

### **2.5.2. Serum indicators**

Venous blood samples were collected before and after treatment. Serum levels of amylase, lipase and CRP were measured, recorded and compared between groups.

### 2.5.3. TCM syndrome score

Symptoms, including fever, abdominal distension and pain, nausea/vomiting, and anorexia, were quantitatively assessed according to severity. Scoring criteria for each symptom: 0 = no symptom, 2 = mild, 4 = moderate, 6 = severe. Total TCM syndrome scores were recorded and compared between the two groups before and after treatment.

### 2.5.4. Efficacy criteria

- (1) Total effective rate of treatment:
  - (a) Markedly effective: Complete or nearcomplete resolution of abdominal pain and distension, significant improvement or disappearance of related signs, and serum amylase returning to the normal range;
  - (b) Effective: Relief of abdominal pain and distension, partial improvement of signs, and normal serum amylase; or complete/nearcomplete resolution of abdominal pain, distension and signs, with a significant decrease in serum amylase compared with baseline;
  - (c) Ineffective: No relief of abdominal pain and distension, no improvement of signs, and no decrease or an increase in serum amylase level. Total effective rate = (number of markedly effective cases + number of effective cases) / total number of cases  $\times$  100%.
- (2) Acute Physiology and Chronic Health Status Evaluated using the Acute Physiology and Chronic Health Evaluation II (APACHE II) before treatment and on day 3 after treatment. This scoring system includes three domains: acute physiological parameters, age and chronic health status, with a total score ranging from 0 to 71. A higher score indicates more severe physiological dysfunction and poorer health status<sup>[6]</sup>.
- (3) Pain Degree Assessment Pain intensity was quantified using the Visual Analogue Scale (VAS), a widely used pain assessment tool<sup>[7]</sup>. The scale uses a 0–10 numerical line: 0 = “no pain”, 10 = “unbearable severe pain”. Pain was graded as: 0–1 = no pain, 2–3 = mild pain, 4–6 = moderate pain,  $\geq 7$  = severe pain<sup>[8]</sup>.

## 2.6. Data statistics and processing

Statistical analysis was performed using SPSS 26.0 software. Measurement data were expressed as mean  $\pm$  standard deviation (SD); between-group comparisons used independent-samples t-test; within-group comparisons used paired t-test. Enumeration data were expressed as cases (%); between-group comparisons used Chi-square ( $\chi^2$ ) test. A value of  $P < 0.05$  was considered statistically significant. Between-group comparisons of normally distributed measurement data were presented as violin plots generated using GraphPad Prism 7.0 software.

## 3. Results

### 3.1. Comparison of clinical efficacy

- (1) Comparison of clinical efficacy between the two groups showed that the total effective rate of treatment in the observation group was 100%, which was higher than 80% in the control group, and the difference was statistically significant ( $\chi^2 = 4.630$ ,  $P = 0.031$ ), as detailed in **Table 2**.

**Table 2.** Comparison of clinical efficacy between the two groups [(%)]

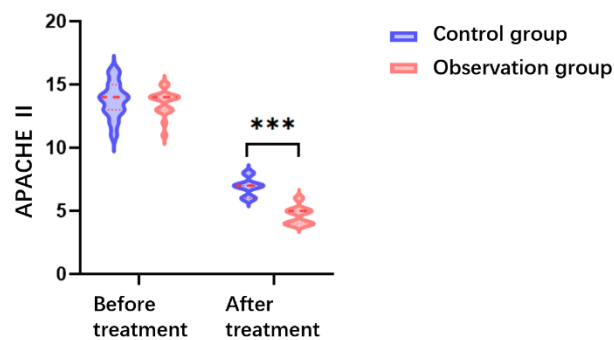
Group	n	Ineffective	Markedly effective	Effective	Total effective rate(%)
Control group	30	6 (20.00)	10 (33.33)	14 (46.67)	24 (80.00)
Observation group	30	0 (0.00)	24 (80.00)	6 (20.00)	30 (100.00)
$\chi^2$					4.630
<i>P</i>					0.031

(2) After treatment, the APACHE II scores in both groups were decreased compared with those before treatment ( $P < 0.05$ ), as detailed in **Table 3**. Compared with the control group, the APACHE II score in the observation group was lower, with a statistically significant difference ( $P < 0.001$ ), as shown in **Figure 1**.

**Table 3.** Comparison of APACHE II scores between the two groups

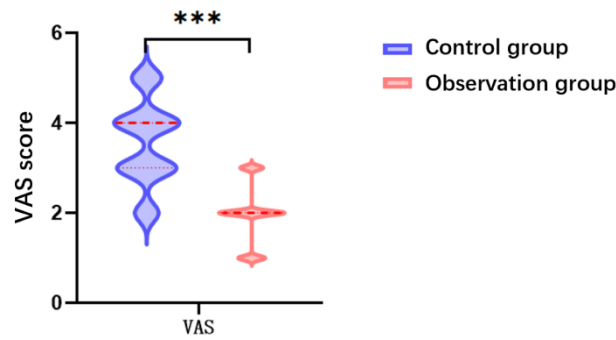
Group	n	APACHEII	
		Before treatment	After treatment
Control group	30	13.77 ± 1.38	6.93 ± 0.69*
Observation group	30	13.53 ± 1.04	4.67 ± 0.71*
<i>t</i>		0.739	12.516
<i>P</i>		0.463	<0.001

Note: \* $P < 0.05$  vs. before treatment in the same group.



**Figure 1.** Comparison of APACHE II Scores before and after Treatment (\*\*\*) $P < 0.001$ ).

(3) Comparison of pain scores before and after treatment between the two groups showed that the VAS score in the observation group was significantly lower than that in the control group, with a statistically significant difference ( $P < 0.001$ ), as shown in **Figure 2**.



**Figure 2.** Comparison of Pain Scores before and after Treatment(\*\**\*P* < 0.001).

### 3.2. Comparison of serum indicators

After treatment, the levels of CRP, serum amylase and serum lipase in both groups were significantly decreased compared with those before treatment (*P* < 0.05), and the decrease in the observation group was more obvious, with statistically significant differences compared with the control group (*P* < 0.05), as shown in **Table 4**.

**Table 4.** Comparison of serum indicators between the two groups before and after treatment (mean ± SD)

Group	n	C-reactive protein(mg/L)		Serum amylase (IU/L)		Serum lipase (IU/L)	
		Before treatment	After treatment	Before treatment	After treatment	Before treatment	After treatment
Controlgroup	30	68.35 ± 32.73	56.02 ± 31.06*	909.45 ± 477.95	275.36 ± 84.89*	994.22 ± 614.90	251.75 ± 127.46*
Observation group	30	63.71 ± 31.62	40.94 ± 23.68*	829.00 ± 425.77	198.92 ± 87.45*	1190.18 ± 546.10	173.18 ± 75.16*
<i>t</i>		0.559	2.115	0.688	3.435	-1.305	2.909
<i>P</i>		0.578	0.039	0.494	0.001	0.197	0.006

Note: \**P* < 0.05 vs. before treatment in the same group.

### 3.3. Comparison of time to symptom improvement

The time to abdominal pain relief (3.87 ± 1.83 days) and the time to normalization of serum amylase (4.67 ± 3.14 days) in the observation group were significantly shorter than those in the control group (5.63 ± 2.79 days, 6.80 ± 3.94 days), with statistically significant differences (*P* < 0.05), as shown in **Table 5**.

**Table 5.** Comparison of time to improvement of abdominal pain symptoms and time to normalization of serum amylase between the two groups (d, mean ± SD)

Group	n	Time to abdominal pain relief (d)	Time to normalization of serum amylase (d)
Control group	30	5.63 ± 2.79	6.80 ± 3.94
Observation group	30	3.87 ± 1.83	4.67 ± 3.14
<i>t</i>		2.902	2.317
<i>P</i>		0.005	0.024

### 3.4. Comparison of TCM syndrome scores

After treatment, the scores of fever, abdominal distension and pain, nausea and vomiting, and anorexia in both groups were significantly lower than those before treatment ( $P < 0.05$ ). Among them, the decreases in the scores of abdominal distension and pain ( $1.33 \pm 1.42$  points) and nausea and vomiting ( $0.00 \pm 0.00$  points) in the observation group were significantly greater than those in the control group ( $2.20 \pm 1.32$  points,  $0.60 \pm 0.93$  points), with statistically significant differences ( $P < 0.05$ ); there were no statistically significant differences in the scores of fever and anorexia between the two groups ( $P > 0.05$ ), as shown in **Table 6**.

**Table 6.** Comparison of Traditional Chinese Medicine (TCM) syndrome scores between the two groups before and after treatment (mean  $\pm$  SD)

Group	n	Fever		Abdominal distension and pain	
		Before treatment	After treatment	Before treatment	After treatment
Control group	30	1.67 $\pm$ 1.58	0.47 $\pm$ 1.01*	4.80 $\pm$ 1.35	2.20 $\pm$ 1.32*
Observation group	30	1.00 $\pm$ 1.14	0.13 $\pm$ 0.51*	4.33 $\pm$ 1.49	1.33 $\pm$ 1.42*
<i>t</i>		1.869	1.618	1.270	2.443
<i>P</i>		0.067	0.111	0.209	0.018

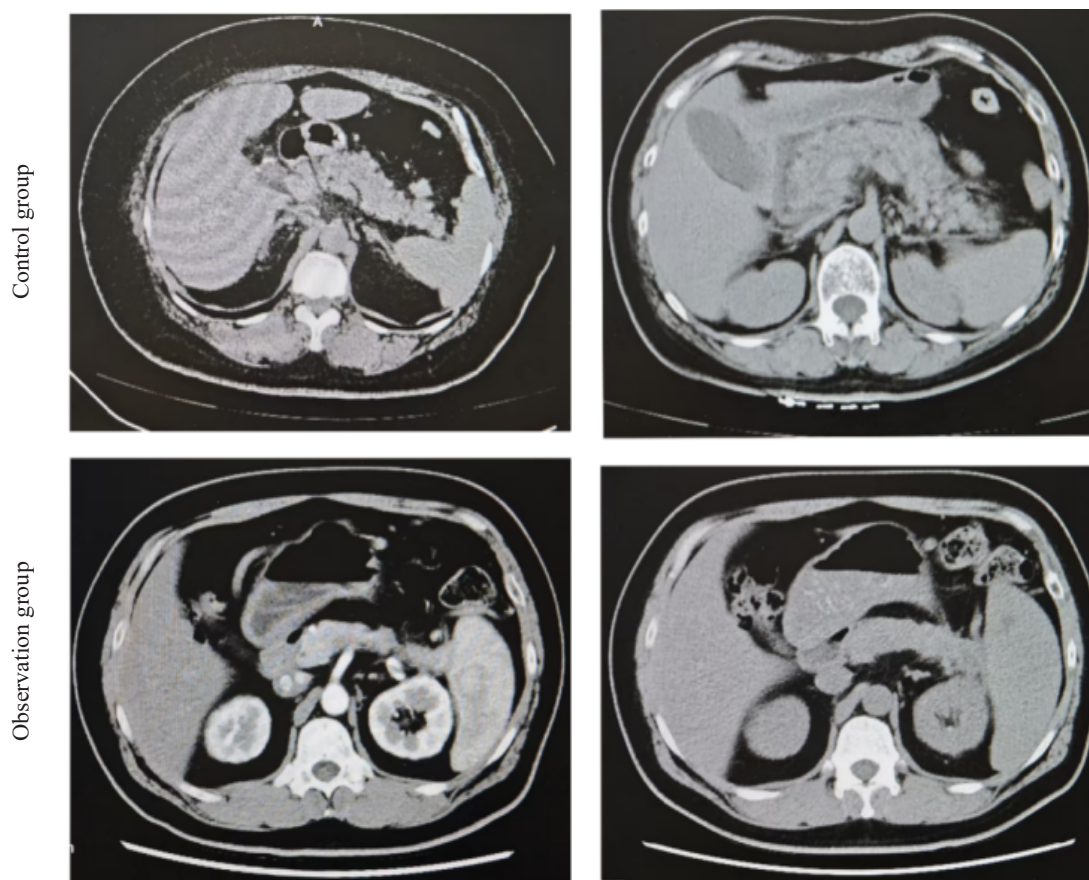
  

Group	n	Nausea and vomiting		Anorexia	
		Before treatment	After treatment	Before treatment	After treatment
Control group	30	3.20 $\pm$ 1.35	0.60 $\pm$ 0.93*	2.27 $\pm$ 1.36	0.07 $\pm$ 0.37*
Observation group	30	3.27 $\pm$ 1.78	0.00 $\pm$ 0.00*	2.67 $\pm$ 2.12	0.00 $\pm$ 0.00*
<i>t</i>		-0.163	3.525	-0.869	1.000
<i>P</i>		0.871	0.001	0.389	0.321

Note: \* $P < 0.05$  vs. before treatment in the same group.

### 3.5. Comparison of imaging findings

The Balthazar grading system is mainly used to evaluate the severity of pancreatitis based on CT findings. Firstly, CT scanning of the pancreas and surrounding areas was performed to examine the size and morphology of the pancreas and determine the presence of necrosis, effusion, or cysts. The severity of pancreatitis was then graded from A to E in ascending order of severity [6]. Post-treatment CT images showed that the improvement of inflammation, necrosis and effusion in the pancreas and surrounding tissues in the observation group was significantly better than that in the control group, as shown in **Figure 3**.



**Figure 3.** Comparison of representative CT images between the two groups showed that the degree of pancreatic improvement in the observation group was more significant than that in the control group.

#### 4. Conclusion

According to traditional Chinese medicine (TCM) theory, the pathogenesis of acute pancreatitis is closely related to uncontrolled diet and emotional disturbance. Improper diet leads to dysfunction of the spleen and stomach in transportation and transformation, resulting in internal retention of phlegm-dampness; emotional stagnation causes Qi stagnation, which transforms into heat over time, and eventually leads to collateral vessel obstruction and interlocking of phlegm-dampness and blood stasis. This finally results in the syndrome of internal accumulation of damp-heat, stasis and toxin, and obstruction of fu-organ Qi<sup>[9]</sup>. Qingyi Decoction, a classic TCM prescription for acute pancreatitis, is formulated based on the principles of purgation and bowel relaxation, clearing heat and detoxification, and promoting blood circulation to remove blood stasis. It is highly consistent with the core pathogenesis of this disease, namely “obstruction of fu-organ Qi and interlocking of damp-heat, stasis and toxin”, reflecting the TCM diagnostic and therapeutic idea of “treatment based on etiology and prioritizing unobstruction”. Modern pharmacological studies have also suggested that Qingyi Decoction exerts therapeutic effects through multiple pathways, including inhibiting excessive activation of pancreatic enzymes, alleviating systemic inflammatory response, improving pancreatic microcirculation, and promoting the recovery of gastrointestinal motility, providing an objective basis for its clinical application<sup>[10]</sup>.

Numerous clinical studies have confirmed that TCM has definite efficacy in improving symptoms, reducing

the incidence of complications, and improving long-term prognosis in patients with acute pancreatitis, and has become an indispensable part of the comprehensive treatment system. Combined with standardized Western medicine treatment, TCM intervention can achieve mechanistic complementarity and synergistic efficacy, further enhancing clinical benefits and fully demonstrating the unique advantages and application value of the integrated traditional Chinese and Western medicine model in the diagnosis and treatment of acute pancreatitis<sup>[11]</sup>. The pathogenesis of acute pancreatitis has not yet been fully elucidated. Modern medicine holds that abnormal activation of pancreatic enzymes triggering pancreatic auto-digestion and amplification of the inflammatory cascade are the core processes leading to local pancreatic injury and systemic multiple organ involvement<sup>[1]</sup>. Serum amylase and lipase are key laboratory indicators for the diagnosis of acute pancreatitis, and their abnormal elevation is closely related to pancreatic acinar cell injury and pancreatic duct obstruction. As an acute-phase reactant, the dynamic change of C-reactive protein (CRP) can objectively reflect the degree of inflammation and disease severity<sup>[16,17]</sup>.

In this study, the self-designed Qingre Xiayi Decoction was used, based on the theory of “unblocking the posterior orifice to benefit the anterior orifice”, with the therapeutic principle established as “integrating clearing, purgation, Qi regulation and blood activation, with a focus on purgating the fu-organs”. The prescription combines the effects of unblocking the bowels, clearing heat, regulating Qi, and activating blood circulation. In the formula, Rhubarb and Mirabilite are used in combination, directly targeting the pathogenesis of fu-organ Qi obstruction and internal accumulation of excess heat; they can inhibit pancreatic enzymes, exert anti-inflammatory effects and protect the intestinal barrier, serving as the core herb pair<sup>[12]</sup>. Immature Bitter Orange and Magnolia Bark break Qi stagnation, direct downward Qi and relieve distention, improving abdominal distension caused by Qi stagnation and damp obstruction, regulating gastrointestinal motility and reducing inflammatory injury<sup>[13]</sup>.

Bupleurum soothes the liver and regulates Qi, disperses stagnated heat, and possesses anti-inflammatory, pancreatic cell-protective and immune-regulating effects<sup>[14]</sup>. Giant Knotweed Rhizome clears heat and dampness, activates blood circulation and detoxifies, improving pancreatic microcirculation and protecting the intestinal mucosal barrier through multiple targets<sup>[15]</sup>. The whole formula is compatible with the pathogenic characteristics of early-stage severe acute pancreatitis. The results of this study showed that after treatment, the levels of serum CRP, amylase and lipase in the observation group were significantly improved, with better control of abdominal pain (pain scores mostly maintained at 0–2), and a significantly faster recovery time of amylase than the group treated with Western medicine alone. These findings indicate that Qingre Xiayi Decoction can effectively improve pancreatic function and alleviate systemic inflammatory response. Previous studies have confirmed that Qingyi Decoction-type prescriptions can increase the total effective rate of acute pancreatitis, relieve clinical symptoms, protect the intestinal barrier and inhibit the inflammatory cascade<sup>[18–20]</sup>. The results of the present study are consistent with those of the above literature, further verifying the synergistic advantages of integrated traditional Chinese and Western medicine treatment.

This study has certain limitations: the observation period was relatively short, lacking follow-up data on long-term efficacy, recurrence rate, and long-term safety; meanwhile, the sample size was limited, and this was a single-center study, which restricted the generalizability of the results to some extent. In the future, expanding the sample size, extending the follow-up period, and conducting multi-center randomized controlled trials can further verify the long-term efficacy and mechanism of Qingre Xiayi Decoction, providing more sufficient evidence-based evidence for its clinical promotion. In conclusion, conventional Western medicine treatment combined with Qingre Xiayi Decoction in patients with early severe acute pancreatitis (SAP) can significantly improve imaging

manifestations, accelerate the relief of symptoms such as abdominal pain, promote the recovery of serological indicators, including CRP and serum amylase, and enhance the comprehensive clinical efficacy. It can provide a safe and effective practical regimen for the integrated traditional Chinese and Western medicine treatment of early-stage SAP.

## Disclosure statement

The authors declare no conflict of interest.

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