Journal of Clinical and Nursing Research, 2025, Volume 9, Issue 11
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Application of Shexiang Baoxin Pill Combined with Rosuvastatin Calcium Tablets in the Treatment of Angina Pectoris due to Coronary Atherosclerotic Heart Disease

Jingjiao Hui

Huishan District People's Hospital, Wuxi 214187, Jiangsu, China

Copyright: © 2025 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: *Objective:* To analyze the therapeutic efficacy of Shexiang Baoxin Pill combined with Rosuvastatin Calcium Tablets (ROS) in patients with angina pectoris due to coronary atherosclerotic heart disease (CHD-AP). *Methods:* Eighty CHD-AP patients admitted for treatment from January 2023 to December 2024 were selected and evenly divided using a random number table. The combined group (40 cases) received treatment with Shexiang Baoxin Pill combined with ROS, while the reference group (40 cases) received ROS monotherapy. The overall response rate, frequency and duration of AP attacks, blood lipid levels, and cardiac function indicators were compared between the two groups. *Results:* The combined group exhibited a higher overall response rate than the reference group. After treatment, the frequency and duration of AP attacks were lower in the combined group than in the reference group. Additionally, blood lipid levels and cardiac function indicators were superior in the combined group ($p < 0.05$). *Conclusion:* The combination of Shexiang Baoxin Pill and ROS demonstrates favorable therapeutic effects in CHD-AP patients, effectively preventing AP attacks, regulating blood lipid levels, protecting cardiac function, and reducing disease risk.

Keywords: Shexiang Baoxin pill; Rosuvastatin calcium tablets; Coronary atherosclerotic heart disease; Angina Pectoris

Online publication: Dec 8, 2025

1. Introduction

Angina pectoris due to coronary atherosclerotic heart disease (CHD-AP) is a cardiovascular disease characterized by typical symptoms of precordial pain and shortness of breath, with a high incidence of myocardial infarction. It is considered a major cause of death among middle-aged and elderly individuals. Statins, particularly Rosuvastatin Calcium Tablets (ROS), are commonly used to treat this condition due to their lipid-regulating effects, which can block disease progression and prevent thrombosis. However, it has a high drug resistance when used as a monotherapy and is difficult to cure the disease completely [1]. In traditional Chinese medicine, CHD-AP is

classified under the categories of "chest impediment" and acute cardiac pain due to Qi and blood deficiency, which is caused by the obstruction of heart vessels due to Qi and blood deficiency. Symptomatic treatments such as promoting blood circulation to remove blood stasis and relieving pain and dredging collaterals are required. Shexiang Baoxin Pill is a typical prescription for this disease, which has the effects of strengthening the heart, relieving pain, replenishing Qi, and inducing resuscitation. It can be used for syndrome differentiation treatment based on the etiology and pathogenesis. The combination of these two treatments can utilize multiple mechanisms to stabilize the patient's condition, thereby improving clinical efficacy. Based on this, this study selected 80 patients with CHD-AP to analyze the therapeutic effectiveness of combining Shexiang Baoxin Pill with ROS.

2. Materials and methods

2.1. General information

Eighty patients with CHD-AP who were admitted for treatment between January 2023 and December 2024 were selected and evenly divided using a random number table. The combined treatment group consisted of 40 patients, including 25 males and 15 females, aged between 41 and 78 years old, with an average age of (56.35 ± 4.18) years, and a disease duration ranging from 1 to 7 years, with an average duration of (3.85 ± 0.79) years. The reference group also consisted of 40 patients, including 27 males and 13 females, aged between 40 and 76 years old, with an average age of (56.39 ± 4.18) years, and a disease duration ranging from 2 to 7 years, with an average duration of (3.96 ± 0.71) years. There were no significant differences in gender, age, disease duration, and disease grading between the two groups ($p > 0.05$).

2.1.1. Inclusion criteria

Diagnosis of CHD-AP confirmed by imaging and electrocardiogram examinations; Presence of typical symptoms such as precordial pain and chest tightness; Complete basic information; Normal communication ability; Good mental state; Informed consent for the study.

2.1.2. Exclusion criteria

Presence of heart failure or myocardial infarction; Presence of malignant tumors; Impaired liver and kidney function; History of allergy to the study drugs; Participation in other studies.

2.2. Methods

The basic treatment for both groups was consistent, involving the administration of drugs such as nitrates and aspirin, and the sublingual administration of nitroglycerin during AP attacks.

2.2.1. The reference group received ROS monotherapy

Oral administration of rosuvastatin calcium tablets (Nanjing Chia Tai Tianqing Pharmaceutical Co., Ltd./Tianjin Tianda Pharmaceutical Co., Ltd., National Medical Products Administration Approval Number H20080670, specification: 10 mg), with a dosage of 20 mg each time, taken once before bedtime daily, for a continuous 4-week period.

2.2.2. The combination group received Shexiang Baoxin pill in combination with ROS therapy

The ROS treatment method was the same as above. For Shexiang Baoxin Pill (Shanghai Hutchison

Pharmaceuticals Co., Ltd., National Medical Products Administration Approval Number Z31020068, specification: 22.5 mg per pill), the oral dosage was 2 pills each time, equivalent to 45 mg, taken three times daily, for a continuous 4-week period.

2.3. Observation indicators

(1) Overall response rate

Significant response: Mild limitation in physical activity, AP (angina pectoris) attack frequency less than 2 times per week, and normal electrocardiogram (ECG) results; Preliminary response: Significant limitation in physical activity, reduction in AP attack frequency by over 50%, and improved ECG results; No response: Severe limitation in physical activity, no improvement in AP attack frequency, and abnormal ECG results.

(2) AP attack profile

Observe the frequency and duration of AP attacks before and after treatment.

(3) Blood lipid levels

Collect 5 mL of venous blood under fasting conditions and use a fully automated biochemical analyzer to evaluate indicators such as triglycerides (TG), low-density lipoprotein (LDL-C), total cholesterol (TC), and high-density lipoprotein (HDL-C).

(4) Cardiac function indicators

Use cardiac color Doppler ultrasound to evaluate indicators such as cardiac output (CO), left ventricular end-diastolic diameter (LVEDD), and left ventricular ejection fraction (LVEF).

2.4. Statistical analysis

SPSS 28.0 statistical software was used. Count data were expressed as [n/%], and comparisons and tests were conducted using the chi-square test (χ^2). Measurement data were expressed as mean ± standard deviation [$\overline{x} \pm s$], and comparisons and tests were conducted using the *t*-test. A statistically significant difference was considered when $p < 0.05$.

3. Results

3.1. Comparison of the overall efficacy between the two groups

The overall efficacy rate in the combined therapy group was higher than that in the reference group ($p < 0.05$) (see **Table 1**).

Table 1. Comparison of the overall efficacy between the two groups [n/%]

Group	n	Markedly effective	Moderately effective	No significant improvement	Total effective rate
Combined group	40	24	15	1	97.5% (39/40)
Control group	40	20	13	7	82.5% (33/40)
χ^2 value					5.000
p-value					0.025

3.2. Comparison of AP episodes between the two groups

Before treatment, there was no significant difference in AP episodes between the two groups ($p > 0.05$). After treatment, the combined therapy group showed better improvement in AP episodes compared to the reference group ($p < 0.05$) (see **Table 2**).

Table 2. Comparison of AP episodes between the two groups [$\overline{x} \pm s$]

Group	n	Attack frequency (times/week)		Attack duration (min/time)	
		Before treatment	After treatment	Before treatment	After treatment
Combined group	40	6.72 ± 1.59	2.35 ± 0.48	8.36 ± 1.84	2.59 ± 0.61
Control group	40	6.74 ± 1.62	4.67 ± 0.51	8.40 ± 1.86	5.01 ± 0.77
t-value		0.056	20.951	0.097	15.581
p-value		0.956	< 0.001	0.923	< 0.001

3.3. Comparison of blood lipid levels between the two groups

Before treatment, there was no significant difference in blood lipid levels between the two groups ($p > 0.05$). After treatment, the combined therapy group demonstrated better blood lipid levels compared to the reference group ($p < 0.05$) (see **Table 3**).

Table 3. Comparison of blood lipid levels between the two groups [$\overline{x} \pm s$, mmol/L]

Group	n	TG (mmol/L)		LDL-C (mmol/L)		TC (mmol/L)		HDL-C (mmol/L)	
		Before	After	Before	After	Before	After	Before	After
Combined group	40	5.99 ± 0.57	2.64 ± 0.41	4.70 ± 0.55	2.56 ± 0.47	8.94 ± 1.47	5.01 ± 0.73	1.81 ± 0.69	2.55 ± 0.38
Control group	40	5.96 ± 0.52	3.94 ± 0.48	4.72 ± 0.53	3.09 ± 0.43	8.96 ± 1.49	6.38 ± 0.77	1.83 ± 0.72	2.06 ± 0.34
t-value		0.246	13.024	0.166	5.262	0.060	8.166	0.127	6.078
p-value		0.806	< 0.001	0.869	< 0.001	0.952	< 0.001	0.899	< 0.001

3.4. Comparison of cardiac function indicators between the two groups

Before treatment, there was no significant difference in cardiac function indicators between the two groups ($p > 0.05$). After treatment, the combined therapy group showed better cardiac function indicators compared to the reference group ($p < 0.05$) (see **Table 4**).

Table 4. Comparison of cardiac function indicators between the two groups [$\overline{x} \pm s$]

Group	n	CO (L/min)		LVEDD (cm)		LVEF (%)	
		Before	After	Before	After	Before	After
Combined group	40	2.74 ± 0.68	5.17 ± 0.83	5.92 ± 0.64	3.90 ± 0.45	38.11 ± 3.65	50.44 ± 5.17
Control group	40	2.76 ± 0.61	4.74 ± 0.72	5.95 ± 0.61	4.18 ± 0.49	38.04 ± 3.61	45.24 ± 5.12
t-value		0.138	2.475	0.215	2.662	0.086	4.520
p-value		0.890	0.015	0.831	0.009	0.931	< 0.001

4. Discussion

Coronary heart disease (CHD) is a prevalent cardiovascular disease among elderly males, characterized by coronary artery stenosis, increased myocardial oxygen consumption, and decreased cardiac metabolic function. The pathogenesis of CHD-AP involves hypoxia and ischemia in myocardial tissue, leading to the accumulation of metabolic products. This accumulation exerts prolonged stimulation on the autonomic nerves of the heart tissue, affecting the function of nerve endings and resulting in AP symptoms [2]. As a reflexive symptom of CHD, CHD-AP can cause precordial pain and radiating pain in the left shoulder and left arm, posing a high risk of acute myocardial infarction. Therefore, early treatment is essential.

Western medicine is a common treatment for CHD-AP, with ROS, as a statin drug, effectively inhibiting β-hydroxy-β-methylglutaryl-coenzyme A reductase and demonstrating a favorable lipid-regulating effect. This medication exhibits high bioavailability and a long half-life, allowing for thorough absorption by bodily tissues. Its active ingredients exert a strong effect on liver tissue, thereby lowering total cholesterol (TC) levels and consistently regulating blood lipids. Additionally, the drug can reduce the existing content of LDL-L cell surface receptors in liver tissue, promoting effective absorption of low-density lipoprotein cholesterol (LDL-C) [3]. However, the mechanism of action of this drug as a monotherapy is limited and cannot provide long-term disease stability, necessitating combination therapy with traditional Chinese medicine (TCM). In TCM, the pathological mechanism of CHD-AP is believed to involve the interplay of phlegm and blood stasis, along with obstruction of the meridians. The treatment principle focuses on promoting blood circulation to remove blood stasis and relieving pain to unblock the meridians. Shexiang Baoxin Pill, a TCM formula for this condition, acts quickly, significantly improving disease symptoms and protecting the patient's cardiac function.

The results indicated that the total effective rate in the combined treatment group was higher than that in the reference group, with fewer episodes and shorter durations of AP ($p < 0.05$). The analysis attributes this to the high drug absorption efficiency of ROS, which protects the patient's vascular endothelial function through mechanisms such as lipid regulation, anti-inflammation, and inhibition of platelet aggregation, effectively alleviating related symptoms and reducing the frequency of AP episodes [4]. Shexiang Baoxin Pill contains various TCM ingredients, including artificial musk, which exhibits significant anti-inflammatory effects and stabilizes blood lipid levels. Ginseng contains a substantial amount of ginsenosides, with Rh1 enhancing the body's immunity and Rh2 improving the hypoxic state of myocardial tissue, preventing reperfusion injury, and demonstrating antioxidant properties. R0 exhibits anti-platelet aggregation and anti-inflammatory effects [5]. Cinnamon can restore coronary blood flow, effectively improve vascular endothelial function and scavenging free radicals. Artificial bezoar has a cardiotonic effect, aiding in the relief of AP symptoms. Borneol and styrax both stabilize heart rate and improve myocardial oxygen consumption. Toad venom, on the other hand, possesses anti-inflammatory and cardiotonic properties, along with analgesic effects [6]. When combined with ROS, this medication can treat the disease through multiple targets, leveraging the synergistic effects of both Western and TCM to enhance therapeutic efficacy.

After treatment, the blood lipid levels in the combined treatment group showed significant improvement, with a $p < 0.05$ compared to the reference group. The analysis suggests that this is due to the high inhibitory activity of ROS on 3-hydroxy-3-methylglutaryl-coenzyme A reductase, which can block the synthesis process of total cholesterol (TC), thereby reducing blood lipid levels such as low-density lipoprotein cholesterol (LDL-C) [7]. Shexiang Baoxin Pill contains traditional Chinese medicinal materials such as artificial calculus bovis and musk, which have functions of promoting the circulation of Qi and blood, relieving pain and resolving stasis. Moreover, the combined use of various traditional Chinese medicinal materials can regulate the blood lipid metabolism status

of patients, facilitating smooth coronary blood flow. Additionally, Shexiang Baoxin Pill contains ingredients such as polysaccharides, flavonoids, and oleoresins, which have a good relaxing effect on vascular smooth muscle, can improve coronary blood flow, promote continuous vascular regeneration, thereby reducing blood viscosity and lowering levels of triglycerides (TG) and TC [8]. The muskone and muscone ketone contained in artificial musk can continuously dilate the coronary arteries of patients and promote the effective proliferation of endothelial cells, thereby protecting vascular endothelial function and assisting in regulating blood lipid levels.

The cardiac function indicators in the combined treatment group also showed significant improvement, with a $p < 0.05$ compared to the reference group. The analysis suggests that this is because ROS has a stabilizing effect on arterial plaques, can inhibit the continuous progression of atherosclerosis, and thus protect the cardiac function of patients. In addition, this medication can reduce the release of inflammatory factors, lower the stimulating effect of inflammatory responses on myocardial tissue, thereby exerting therapeutic effects such as improving cardiac function [9]. Among the ingredients of Shexiang Baoxin Pill, artificial musk has the effects of promoting blood circulation, opening orifices to restore consciousness, and unblocking meridians; ginseng has the effects of replenishing Qi and nourishing blood; cinnamon has the effects of warming meridians to unblock collaterals and relieving pain and dispersing cold; artificial calculus bovis has the effects of subduing wind to stop spasms and detoxifying to clear heat; borneol has the effects of opening orifices to restore consciousness and clearing heat to relieve pain; storax has the effects of relieving pain and dispelling filth; and venenum bufonis has the effects of relieving pain and restoring consciousness. The combined use of these medicinal materials can simultaneously promote and nourish, significantly enhancing the cardiotonic effect [10].

4. Conclusion

In conclusion, the combined treatment of Shexiang Baoxin Pill and ROS for patients with coronary heart disease with angina pectoris (CHD-AP) demonstrates high effectiveness. It can improve symptoms of angina pectoris, stabilize blood lipid levels, and protect cardiac function. This treatment approach exhibits significant advantages in integrated traditional Chinese and Western medicine and can serve as a commonly used combined treatment regimen for this condition.

Disclosure statement

The author declares no conflict of interest.

References

[1] Wang X, Dong Z, Zhang H, et al., 2023, Pharmacoeconomic Evaluation of Shexiang Baoxin Pill, Compound Danshen Dripping Pill, and Naoxintong Capsule in the Treatment of Stable Angina Pectoris in Coronary Heart Disease. Chinese Journal of Hospital Pharmacy, 23(2): 230–233.

[2] Xia Z, Zhang X, Jin L, et al., 2021, Clinical Efficacy of Shexiang Baoxin Pill Combined with Conventional Treatment in Patients with Stable Angina Pectoris in Coronary Heart Disease. Chinese Traditional Patent Medicine, 43(7): 1772–1774.

[3] Li J, Zhang H, Chen L, 2021, Observation on the Efficacy and Safety of Felodipine Combined with Shexiang Baoxin Pill in the Treatment of Coronary Heart Disease Complicated with Angina Pectoris. Guizhou Medical Journal, 45(11):

1733–1734.

[4] Wang X, Zhang H, Wang X, et al., 2021, Evidence-Based Pharmacoeconomic Evaluation of Shexiang Baoxin Pill and Compound Danshen Dripping Pill in the Treatment of Angina Pectoris in Coronary Heart Disease. Chinese Journal of Hospital Pharmacy, 21(1): 71–76.

[5] Li Y, 2025, Efficacy of Shexiang Baoxin Pill Combined with Rosuvastatin Calcium Tablets in the Treatment of Angina Pectoris in Coronary Heart Disease and Its Effects on Hemorheology and Blood Lipids. Health Care Essence, 26(14): 81–84.

[6] Su J, Ma Y, 2021, Efficacy Analysis of Shexiang Baoxin Pill Combined with Rosuvastatin in the Treatment of Angina Pectoris in Coronary Heart Disease. Modern Medicine and Health Research (Electronic Edition), 5(13): 38–41.

[7] Zheng Y, Liu Y, Wang M, et al., 2021, Systematic Evaluation of the Efficacy and Safety of Shexiang Baoxin Pill in the Treatment of Angina Pectoris in Coronary Heart Disease. Chinese Journal of Hospital Pharmacy, 21(2): 199–203.

[8] Cui W, 2025, Analysis of the Combined Application Effect of Shexiang Baoxin Pill and Rosuvastatin Calcium Tablets in the Treatment of Angina Pectoris in Coronary Heart Disease. Inner Mongolia Journal of Traditional Chinese Medicine, 44(2): 27–29.

[9] Cheng Z, Yang Y, Cheng Y, et al., 2024, Efficacy of Shexiang Baoxin Pill Combined with Rosuvastatin Calcium Tablets in the Treatment of Angina Pectoris in Coronary Heart Disease and Its Effects on Hemorheology and Blood Lipids. Clinical Rational Drug Use, 17(11): 44–47.

[10] Zhao Y, Xie L, 2021, Observation on the Clinical Efficacy and Safety of Shexiang Baoxin Pill Combined with Diltiazem in the Treatment of Stable Angina Pectoris in Elderly Patients with Coronary Heart Disease. Guizhou Medical Journal, 45(12): 1934–1935.

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.