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The Efficacy of Tongxinluo Capsules in Treating Coronary Heart Disease with Angina Pectoris and Its Impact on Cardiac Function

Ruxin Ji

Mianzhu Center for Disease Control and Prevention, Mianzhu 618200, Sichuan, China

Abstract: *Objective*: To analyze the efficacy of Tongxinluo Capsules in treating coronary heart disease (CHD) with angina pectoris. *Methods*: A total of 98 patients with CHD and angina pectoris admitted between May 2022 and May 2025 were enrolled and randomly divided into a control group and an experimental group, with 49 cases each. The control group was treated with atorvastatin + clopidogrel, while the experimental group received atorvastatin + clopidogrel + Tongxinluo Capsules. Clinical efficacy, cardiac function, angina attack frequency and duration, and adverse reactions were compared between the two groups. *Results*: The experimental group showed higher clinical efficacy than the control group ($P < 0.05$). Cardiac function in the experimental group was superior to that of the control group ($P < 0.05$). The duration and frequency of angina attacks in the experimental group were lower than those in the control group ($P < 0.05$). There was no significant difference in the incidence of adverse reactions between the two groups ($P > 0.05$). *Conclusion*: The use of Tongxinluo Capsules in the clinical treatment of CHD with angina pectoris can improve various clinical indicators, enhance therapeutic efficacy, and promote faster patient recovery.

Keywords: Tongxinluo Capsules; Coronary heart disease; Angina pectoris; Cardiac function

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1. Introduction

Coronary heart disease (CHD) with angina pectoris, as a common condition in the field of cardiovascular diseases, can significantly impair patients' quality of life and even threaten their lives. The pathogenesis of this disease is complex, often associated with coronary atherosclerosis, necessitating early intervention to reduce the risk of cardiovascular events [1]. Currently, conventional Western medications such as atorvastatin and clopidogrel are widely used in clinical treatment. While these drugs can regulate blood lipid levels and alleviate clinical symptoms, they may also lead to adverse reactions [2]. With the advancement of traditional Chinese medicine (TCM), Tongxinluo Capsules have emerged as a therapeutic option for CHD with angina pectoris. This compound herbal preparation is believed to promote Qi circulation, activate blood flow, and relieve pain

by unblocking collaterals. To explore the clinical value of Tongxinluo Capsules in treating CHD with angina pectoris, this study administered the drug to patients and analyzed its therapeutic efficacy and impact on cardiac function, aiming to provide a reference for clinical practice.

2. Materials and methods

2.1. General information

A total of 98 patients with coronary heart disease and angina pectoris admitted from May 2022 to May 2025 were included and randomly divided into a control group and an experimental group, with 49 patients in each group. The control group consisted of patients aged 45–74 years, with an average age of (63.49 ± 4.17) years; 26 males and 23 females; and a disease duration of 1–5 years, with an average of (3.98 ± 0.53) years. The experimental group consisted of patients aged 43–73 years, with an average age of (64.01 ± 4.23) years; 25 males and 24 females; and a disease duration of 1–6 years, with an average of (4.08 ± 0.61) years. The general information was not statistically significant ($P > 0.05$).

2.1.1. Inclusion criteria

(1) Meet the clinical diagnostic criteria for angina pectoris of coronary heart disease, and confirmed by coronary angiography.
(2) Complete and available clinical data.
(3) Patients and their families have sound cognitive and communication abilities.
(4) High level of cooperation throughout the study.

2.1.2. Exclusion criteria

(1) Malignant tumors
(2) Immune disorders
(3) Congenital heart disease
(4) Severe dysfunction of other important organs
(5) History of heart surgery
(6) Systemic infectious diseases
(7) Infectious diseases
(8) Contraindications to study medication, etc.

2.2. Methods

The control group was treated with atorvastatin combined with clopidogrel. Atorvastatin (Pfizer Pharmaceutical Co., Ltd.; National Medicine Approval No. H20051408) was administered orally once a day, 20mg per time, after meals. Clopidogrel (Lepu Pharmaceutical Co., Ltd.; National Medicine Approval No. H20123115) was administered orally once a day, 75mg per time, after meals. The experimental group was treated with Tongxinluo Capsule based on the control group's regimen. The treatment methods of atorvastatin and clopidogrel were the same as those in the control group. Tongxinluo Capsule (Shijiazhuang Yiling Pharmaceutical Co., Ltd., National Medicine Approval No. Z19980015, specification: 0.26g/capsule) was administered orally, 3 capsules each time, 3 times a day. Both groups were treated continuously for 4 weeks. During the medication period, patients

were instructed to maintain good sleep and emphasize a low-salt and low-fat diet.

2.3. Observation indicators

(1) Clinical efficacy: (a) Markedly effective: The incidence of angina pectoris is reduced by more than 80%, and electrocardiogram examination reveals that ST-T has returned to the isoelectric line.; (b) Effective: The incidence of angina pectoris is reduced by 50%–80%, and electrocardiogram examination reveals that the T wave is upright and the ST segment depression has recovered by more than 1.5mm; (c)Ineffective: The above criteria are not met, and no changes are found in the electrocardiogram examination; Effective rate = (markedly effective + effective) / total number of cases × 100%.

(2) Cardiac function: Echocardiography was used to measure the left ventricular end-diastolic diameter (LVEDD), left ventricular ejection fraction (LVEF), and left ventricular end-systolic diameter (LVESD) in both groups.

(3) Angina pectoris attacks: The duration and frequency of angina pectoris attacks in both groups were observed and recorded.

(4) Adverse reactions: The occurrence of adverse reactions such as headache, rash, nausea, vomiting, and diarrhea in both groups was observed and recorded.

2.4. Statistical methods

Data were processed using SPSS 22.0 software. Measurement data were expressed as mean ± standard deviation ($\overline{x}$ ±s) and analyzed using the t-test. Count data were expressed as frequencies and percentages [n(%)] and analyzed using χ^2 test. A P-value < 0.05 was considered statistically significant.

3. Results

3.1. Comparison of clinical efficacy

The clinical efficacy of the experimental group was higher than that of the control group ($P < 0.05$), as shown in **Table 1**.

Table 1. Comparison of clinical efficacy (n,%)

Group	*n*	Markedly Effective n (%)	Effective n (%)	Ineffective n (%)	Total effective rate (%)
Study	49	21 (42.86)	24 (48.98)	4 (8.16)	45 (91.84)
Control	49	17 (34.69)	20 (40.82)	12 (24.49)	37 (75.51)
χ^2					4.781
p-value					0.028

3.2. Comparison of cardiac function

Before treatment, there was no difference in cardiac function between the two groups ($P > 0.05$). After treatment, the cardiac function levels in the experimental group were better than those in the control group ($P < 0.05$), as shown in **Table 2**.

Table 2. Comparison of cardiac function (n, $\overline{x} \pm s$)

Group	*n*	LVEDD (cm)		LVESD (cm)		LVEF (%)	
		Pre	Post	Pre	Post	Pre	Post
Study	49	6.41 ± 0.42	5.01 ± 0.32	4.63 ± 0.42	3.27 ± 0.25	45.6 1 ±5.29	57.44 ± 4.97
Control	49	6.46 ± 0.43	5.73 ± 0.36	4.65 ± 0.44	3.66 ± 0.38	46.03 ± 5.21	52.86 ± 4.02
t-value		0.582	10.464	0.230	6.002	0.396	3.204
p-value		0.562	< 0.001	0.819	< 0.001	0.693	0.003

3.3. Comparison of angina pectoris attacks

Prior to treatment, the two groups showed no significant difference in the duration or frequency of angina pectoris episodes ($P > 0.05$). However, following treatment, the experimental group exhibited a reduction in both the duration and frequency of angina attacks compared to the control group ($P < 0.05$), as detailed in **Table 3**.

Table 3. Comparison of angina pectoris attacks (n, $\overline{x} \pm s$)

Group	n	Episode duration (minutes)		Episode frequency (times/week)	
		Pre-treatment	Post-treatment	Pre-treatment	Post-treatment
Study	49	6.37 ± 1.23	2.67 ± 0.31	4.71 ± 0.14	1.19 ± 0.27
Control	49	6.34 ± 1.25	4.46 ± 0.29	4.69 ± 0.11	2.63 ± 0.25
t-value		0.077	29.517	0.786	27.394
p-value		0.939	< 0.001	0.434	< 0.001

3.4. Comparison of the occurrence of adverse reactions

The adverse reaction rate in the experimental group was 20.4% (10 out of 49 cases), showing no significant difference compared to the control group's rate of 22.45% (11 out of 49 cases) ($P > 0.05$). For further details, refer to **Table 4**.

Table 4. Comparison of the occurrence of adverse reactions (n,%)

Group	*n*	Headache n (%)	Rash n (%)	Nausea/Vomiting n (%)	Diarrhea n (%)	Total Incidence n (%)
Study	49	1 (2.04)	3 (6.12)	4 (8.16)	2 (4.08)	10 (20.41)
Control	49	3 (6.12)	2 (4.08)	4 (8.16)	2 (4.08)	11 (22.45)
χ^2						0.061
p-value						0.806

4. Discussion

Coronary heart disease (CHD) is a clinically common condition typically caused by atherosclerosis. Once diagnosed, prompt treatment is essential, as the disease can easily lead to chronic heart failure, impairing respiratory function and causing symptoms such as fatigue and limited mobility. As the condition progresses, it may threaten the patient's life [3]. Among CHD patients, angina pectoris is a frequent symptom, often

accompanied by tachycardia, elevated blood pressure, pallor, and cold sweats. If angina persists, it may trigger heart failure or even myocardial infarction, significantly endangering the patient's life [4]. Clinically, it is crucial to prioritize intervention for this disease, adhering to the principles of early diagnosis and treatment to alleviate symptoms, relieve pain, and promote recovery.

Currently, the clinical treatment of CHD patients with angina pectoris primarily involves medication. A variety of drugs are available, including lipid-regulating and antiplatelet therapies such as atorvastatin, clopidogrel, and aspirin. While these drugs can improve symptoms and have certain therapeutic value—for instance, atorvastatin helps stabilize plaques and regulate lipids, thereby alleviating clinical symptoms[5]—long-term use may lead to adverse reactions. Therefore, safer and more effective treatments are needed to curb the progression of CHD and angina. Current clinical approaches mainly involve antiplatelet drugs, nitrates, or surgical interventions to control the frequency of angina attacks and prevent adverse cardiovascular events caused by prolonged angina [6].

Traditional Chinese medicine (TCM) posits that CHD is often influenced by factors such as deficiency of heart qi, impaired organ function, and chronic illness, leading to weakened blood circulation due to heart deficiency, blood stasis, and prolonged fluid retention. These factors collectively contribute to the disease. Therefore, treatment should follow the principles of replenishing Qi, warming Yang, improving microcirculation, protecting vascular endothelium, reducing inflammation, and promoting blood circulation and diuresis. Tongxinluo Capsule, a key TCM compound formulation for treating CHD and angina, is composed of ginseng, leech, scorpion, ground beetle, centipede, red peony root, frankincense, rosewood, sandalwood, spiny jujube seed, and borneol. These ingredients work synergistically to improve blood circulation, unblock blood vessels, enhance myocardial oxygen supply, regulate cardiac function, reduce myocardial ischemic damage, and strengthen myocardial contractility, thereby effectively treating CHD and angina [7].

The results showed that the clinical efficacy of the experimental group was higher than that of the control group ($P < 0.05$). The experimental group also demonstrated superior cardiac function and reduced angina attacks compared to the control group ($P < 0.05$), with no statistically significant difference in adverse reactions ($P > 0.05$). This can be attributed to Tongxinluo Capsule's ability to dilate coronary arteries, regulate vascular endothelial function, exert anti-inflammatory effects, and improve myocardial blood supply and cardiac function. Additionally, the study's rigorous control of biases and potential individual sensitivity to the drug may have contributed to the capsule's pronounced efficacy.

5. Conclusion

In conclusion, Tongxinluo Capsule can be clinically used to treat CHD patients with angina pectoris. This treatment regimen effectively alleviates clinical symptoms, reduces the duration and frequency of angina attacks, and improves cardiac function.

Disclosure statement

The author declares no conflict of interest.

References

[1] Wang F, Jing J, 2025, Observation on the Efficacy and Safety of Tongxinluo Capsule Combined With Clopidogrel in the Treatment of Coronary Heart Disease and Angina Pectoris With Qi Deficiency and Blood Stasis Syndrome. Chinese and Foreign Women's Health Research, 2025(1): 59–61.

[2] Chen Z, Huang X, Xiao S, 2023, Effects of Tongxinluo Capsule Combined With Atorvastatin on Blood Lipid Levels and Cardiac Function in Elderly Patients With Coronary Heart Disease. Chinese Journal of Geriatrics, 43(13): 3086–3088.

[3] Cui S, Zhao F, Chang L, et al., 2023, Clinical Efficacy of Tongxinluo Capsule in the Treatment of Stable Angina Pectoris With Qi Deficiency and Blood Stasis Syndrome and Its Effect on Left Ventricular Function. Hebei Journal of Traditional Chinese Medicine, 45(8): 1255–1259.

[4] Shao J, 2022, Study on the Efficacy of Tongxinluo Capsule on Patients After Coronary Heart Disease Intervention and Its Effect on Vascular Endothelial Function and Inflammatory Factors. Guizhou Medicine, 46(2): 294–296.

[5] Kang S, Zhang L, Zhao X, et al., 2025, Effects of Ticagrelor Combined With Atorvastatin on Hemorheological Indicators and Plasma Fibrinogen Levels in Patients With Unstable Angina Pectoris Caused by Coronary Heart Disease. Chinese Journal of Hemorheology, 35(1): 72–76.

[6] Chen J, Wang Y, Lu Z, et al., 2023, Effects of Atorvastatin Combined With Clopidogrel on Blood Lipids, Hemorheology, and Cardiac Function in the Treatment of Coronary Heart Disease and Angina Pectoris. Chinese Journal of Geriatrics, 43(7): 1546–1549.

[7] Wang L, 2025, Study on the Effect of Tongxinluo Capsule Combined With Metoprolol in the Treatment of Coronary Heart Disease and Angina Pectoris. Chinese Journal of Modern Drug Application, 19(2): 71–73.