

Influence of Baduanjin on Prognosis of Acute Coronary Syndrome after Percutaneous Coronary Intervention

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Abstract: Objective: To study the effect of Baduanjin with acute coronary syndrome after percutaneous coronary intervention.

Method: 60 patients with acute coronary syndrome after stenting were randomly divided into two groups (treatment group and control group). The treatment group received medication and Baduanjin treatment, while the control group received medication treatment only 6 months after, all patients received six minutes' walk test and Seattle Angina Questionnaire.

Result: After 6 months, the treatment group was a significant difference compared with the control group on the 6MWT and SAQ($P<0.05$). **Conclusion:** Baduanjin can improve the cardiopulmonary function and quality of life of acute coronary syndrome after PCI.

Keywords: Baduanjin; Acute Coronary Syndrome; Percutaneous Coronary Intervention; Seattle Angina Questionnaire; Six Minutes' Walk Test

Introduction

Report on Cardiovascular Health and Disease in China 2019: An Update Summary shows that the number of cardiovascular diseases in China is now 330 million. The rate of serious illness and death is still on the rise ^[1]. Although the interventional technology of cardiovascular disease has developed rapidly, the reduction of the recurrence rate and fatality rate of cardiovascular disease is still not ideal. Because old people's body function is poor, concomitant disease is much, bringing about bad prognosis. Cardiac rehabilitation can improve the physical function of the elderly, improve postoperative anxiety, improve cardiopulmonary tolerance, reduce recurrence and mortality ^[2]. The traditional sports of traditional Chinese medicine have accumulated long-term practical experience. Academician Chen Keji put forward the concept of rehabilitation medicine combining traditional Chinese and Western Medicine. He developed traditional sports such as Baduanjin, Taijiquan, enriched the sports rehabilitation medical system of integrated traditional Chinese and western medicine and improved the effect of rehabilitation treatment ^[3]. So, we will study the recovery effect of Baduanjin with the patients after percutaneous coronary intervention of acute coronary syndrome.

1. Method

60 patients with acute coronary syndrome were hospitalized after stenting. Diagnostic criteria in accordance with Non-ST-Segment Acute Coronary Syndromes ^[4]. Inclusion: ① Conforms to the diagnosis of acute coronary syndromes. ② Sports rehabilitation belonged to patients with moderate to low risk. ③ All participants signed informed consent. Exclusion: ① Patients with body movement disorders. ② Patients with mental disorders. ③ Uncontrolled angina pectoris, heart failure, III atrioventricular block, serious hypertension. ④ Patients after PCI belonged to high risk.

Both groups were given standardized medical treatment: aspirin 100mg qd, clopidogrel 75mg qd, rosuvastatin 10mg qn, benazepril 10mg qd, metoprolol 25mg bid. The rehabilitation exercise adopted the Baduanjin training method of General Administration of Sport of China. The patients were taught the badunjin training method through video and on-site methods before being discharged. After being discharged from the hospital, the patients practiced Baduanjin from 17:00-18:00, 5 days a week, the last 6 months. The patients were asked to stop the exercise when angina occurred, arrhythmia recurred, heart

failure worsened and other bodies can't tolerate it. The 6MWT experiment and the Seattle angina scale were performed.

2. Statistical

SPSS 26.0 statistical software Processed the data. Categorical data was analyzed by the χ^2 test. The difference in measurement data was compared with the test. $P < 0.05$ were considered statistically significant.

3. Result

Comparison of general data between the two groups showed that there was no significant difference in age, sex, hypertension, diabetes, smoke, drink (Table1). While in Seattle Angina Questionnaire (SAQ) and six minutes' walk test (6MWT), the treatment group were significant differences to the control group of the 6 months ($P < 0.01$). After treatment, the physical limitation, angina stability, angina frequency, treatment satisfaction and disease cognition of the treatment groups were significantly higher than those before treatment, while the same situation in the physical activity limitation and the anginal frequency of the control group ($P < 0.05$). But the anginal stability, treatment satisfaction and disease cognition had no sense in the control group ($P > 0.05$) (Table2).

Table1. Comparison of general information

	Treatment group	Control Group
Age	66.3±10.94 ¹	65±11.7
Sex(male)	53.3% ¹	56.7%
Hypertension	53.3% ¹	53.3%
Diabetes	33.3% ¹	40%
Smoke	40% ¹	46.7%
Drink	16.7% ¹	26.7%
1. Compare with control group $P > 0.05$		

Table2. Comparison of Seattle Angina Questionnaire and 6MWT

Group	n	Time	Physical Limitation	Anginal Stability	Anginal Frequency	Treatment Satisfaction	Disease Cognition	6MWT
Treatment Group	3	4 weeks	43.92±7.46	54.17±9.48	24.33±11.58	43.9±11.6	34.43±12.43	-
		6 months	66.58±12.93 ^{1,3}	80±10.17 ^{1,3}	71.33±12.52 ^{1,3}	71.26±12.21 ^{1,3}	66.37±16.57 ^{1,3}	456.43±85.58 ³
Control Group	3	4 weeks	44.92±9.43	62.5±12.71	32.5±15.29	41.58±12.07	39.36±12.13	-
		6 months	48.93±9.86 ¹	61.67±12.69 ²	39.67±18.14 ¹	42.55±11.32 ²	41.52±14.2 ²	401.87±71.49

1. Compare with same group $P < 0.01$ 2. Compare with same group $P > 0.05$ 3. Compare with control group $P < 0.05$

4. Discussion

Baduanjin can improve cardiopulmonary exercise ability of patients with coronary heart disease after stenting, which can increase diaphragm activity and tidal volume. Baduanjin can also improve the quality of life of patients with coronary heart disease after stenting. Previous study showed that Baduanjin was a secondary preventive treatment for coronary heart disease, can reduce the recurrence of angina, improve survival rate [5]. This was consistent with our studies. Our study shows that Baduanjin can improve physical limitation, anginal stability, anginal frequency, treatment satisfaction, disease cognition of the coronary heart disease after stenting. Because after Baduanjin rehabilitation training, coronary heart disease risk factors such as lipid, blood pressure, blood glucose level were controlled, delay the progression of coronary atherosclerosis. Secondly, after Baduanjin exercise, improved vascular endothelial function, promoted coronary collateral circulation, increased the tolerance of myocardium to hypoxia, achieved the effect of anti-myocardial ischemia.

Our study was exploring the effects of Baduanjin on cardiopulmonary function and quality of life of patients with acute coronary syndrome after PCI from the perspective of traditional Chinese medicine fitness techniques. The Baduanjin fitness method has a complete theoretical system and reliable clinical effects. The significance of our study is to integrate Baduanjin into cardiac rehabilitation, to take the road of integration of Traditional Chinese and Western medicine, to actively explore the mode of cardiac rehabilitation, and to achieve the maximum benefit of patients with myocardial infarction after PCI.

References

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