Therapeutic Effect of Trimetazidine Combined with Traditional Chinese Medicine Prescription on Senile Heart Failure Complicated with Pulmonary Infection

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Keywords: Trimetazidine, Traditional Chinese Medicine, Elderly, Heart Failure with Pulmonary Infection, Clinical Efficacy.

Abstract: Objective: To explore the clinical effect of the combined use of trimetazidine and traditional Chinese medicine in the treatment of elderly patients with heart failure and pulmonary infection. Choose to start a comparative experiment in our hospital. The researcher's object is elderly patients with heart failure and lung infection. The study period is from April 2020 to April 2021. A total of 80 patients were selected in this study, and different methods were applied when the patients were treated. The research methods were simple Chinese medicine treatment (control group) and trimetazidine combined with Chinese medicine treatment (experimental group) to compare and analyze the clinical treatment effects of the two groups of patients. Results: In terms of treatment effect, the two groups reached 95.00% and 80.00% respectively. In contrast, the experimental group has higher data, and the discharge time of the experimental group and the disappearance of various symptoms are shorter than the control group. The patient's physical sign scores were closer to the normal value, and the differences from the control group were relatively large, expressed as $P<0.05$, which was statistically significant. In the process of treatment of elderly patients with heart failure and pulmonary infection, the combined use of trimetazidine and traditional Chinese medicine can promote the recovery of patients and improve the clinical symptoms of patients. The clinical application effect is significant.

1 INTRODUCITON

As far as elderly patients are concerned, most of them have already experienced physical decline. Not only does the patient's physical ability decrease, but it is also easy to cause the patient to have a weakened myocardial contraction or myocardial diastolic capacity, resulting in a low stroke volume of the patient, and it is difficult to meet the patient's body needs, showing heart failure (Chen 2020). For most patients with heart failure, it mostly starts with the failure of the left heart. The patient's initial clinical symptoms are pulmonary congestion, and as it progresses gradually, the patient is prone to secondary bronchitis and pneumonia symptoms. Therefore, it is particularly important to carry out effective treatment for patients and reduce the incidence of adverse reactions in patients. According to the results of relevant research data, the combined use of trimetazidine and traditional Chinese medicine can relieve the symptoms of patients and has significant clinical application significance (Ji 2019). This study is based on this, taking patients in our hospital as an example, applying different treatment methods, and conducting comparative studies on the results as follows.

2 PURPOSE

When the condition of patients with heart failure and lung infection is more serious, it is a serious threat to the life and health of the patients. Therefore, it is particularly important to carry out active treatment for the patients. In this study, different treatment methods were applied, and the clinical application value of trimetazidine and traditional Chinese medicine prescriptions was explored by comparing the clinical effects.

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3 METHOD

3.1 General Data Analysis

From April 2020 to April 2021, research work has been carried out in our hospital, taking patients with heart failure and lung infection as an example. The 80 patients under the regulations were divided into groups, and different treatment methods were applied. They were given simple medication and combined medication, respectively, and the group names were control and experiment. In a specific comparative experiment, in the 40 patients in the experimental group, the number of males was 23 and the number of females was 17. The maximum age of the patients was 88 years old, the minimum age was 61 years old, and the mean was (73.22±4.33) years old. Among the 40 patients in the control group, there were 24 males and 16 females. The age range of the patients was 63-89 years, with an average of (74.00±4.83) years. The general data of the two groups of patients were compared under statistical methods, and the differences in the data were not significant enough, P>0.05. Shows that the treatment effect can be compared as a variable.

Inclusion criteria: The patients were in compliance with the clinical diagnostic criteria for heart failure complicated with pulmonary infection; the patients had no history of drug allergy; this study was approved by the hospital ethics committee and was carried out after the patient's consent.

Exclusion criteria: patients with malignant tumors; patients with liver, kidney and other organ dysfunction diseases, patients with consciousness disorders.

3.2 Research Methods

Patients in the control group were treated with traditional Chinese medicine prescriptions. The main prescriptions included: Ephedra sinica 10g, Motherwort 30g, Ophiopogon japonicus 30g, Adenophora 30g, Radix scoparia 15g, Almond 15g, Gypsum 30g, Peach kernel 15g, Platycodon 10g, Shegan 10g, Ophiopogon 30g, Danshen 15g, Mulberry Bark 15g, Roasted Licorice 10g, 1 dose per day, once a day. If the patient has obvious symptoms of qi deficiency, atractylodes macrocephala and astragalus should be added. If the patient has obvious yang deficiency, Guizhi needs to be added. If the patient has obvious yin deficiency, it is necessary to increase Polygonatum and Cornus. If the patient has obvious congestion, leeches and safflower need to be added. If the patient has obvious edema, add Eupatorium and Poria.

In the experimental group, on the basis of traditional Chinese medicine decoction treatment, trimetazidine was added with a dose of 20 mg, and intervention was performed three times a day. Both groups of patients received 1 month of treatment.

3.3 Observation Indicators

The comparison of treatment effects mainly includes three indicators: markedly effective, effective and ineffective. Significant effect mainly refers to the disappearance of the symptoms of lung infection after the patient receives treatment; under the X-ray film, the patient shows that the inflammatory reaction focus disappears. Effective means that the patient's symptoms of pulmonary infection have improved after receiving treatment; with the help of X-ray observation, the elimination rate of inflammatory lesions of the patient is above 60%. Ineffective means that the patient's clinical symptoms and indicators have not changed significantly after treatment. The exclusion invalid rate is the total effective rate.

The hospitalization time and the disappearance time of related symptoms of the two groups of patients were compared. The symptoms mainly included cough, wheezing, and wet rales.

The physical signs of the two groups of patients were compared, including heart rate (HR), respiratory rate (RR), arterial partial pressure of oxygen (PaO2), and arterial partial pressure of carbon dioxide (PaCO2).

3.4 Statistical Methods

The statistical software SPSS20.0 was used as a tool to perform statistical analysis on the data appearing in this study. The comparison result of measurement data (x±s) shall be verified by t value. The comparison result of the count data (n, %) is verified by the x2 value. When the result shows P<0.05, it means that there is a statistical analysis value for the difference between the groups.

4 RESULTS

4.1 Therapeutic Effect

In terms of treatment effect, the two groups reached 95.00% and 80.00% respectively. In contrast, the experimental group was higher, and the data difference was statistically significant (P<0.05).

Table 1: Comparison of the treatment effect of the two groups of patients [n(%)].

Groups	Markedly effective	Effective	Ineffective	Efficient
Experience Group (n=40)	26 (65.00)	12 (30.00)	2 (5.00)	38 (95.00)
Control Group (n=40)	17 (42.50)	15 (37.50)	8 (20.00)	32 (80.00)
X^2				6.866
P				<0.05

4.2 Time to Disappearance of Symptoms

Compared with patients in the control group, patients in the experimental group had shorter hospital stays, and the disappearance of symptoms such as cough, wheezing and wet rales was shorter, with large data differences (P<0.05).

Table 2: Comparison of disappearance of symptoms between the two groups (x±s).

Groups	Hospital stay (d)	Cough (d)	Asthma (d)	Wet rales (d)
Experience Group (n=40)	7.33±1.23	5.33±1.00	2.13±1.22	4.30±1.21
Control Group (n=40)	9.89±2.31	7.56±1.20	3.49±1.22	6.58±1.20
t	5.483	6.004	5.284	6.284
P	<0.05	<0.05	<0.05	<0.05

4.3 Sign Comparison

After treatment, compared with the control group, the HR, RR and PaCO2 of the experimental group were lower than those of the control group. However, PaO2 was significantly higher than the control group, and the differences in various data were expressed as P<0.05, which was meaningful.

Table 3: Comparison of vital signs of the two groups of patients (x±s).

Groups	HR	RR	PaO_2	$PaCO_2$
Experience Group (n=40)	82.33±10.24	26.04±4.23	67.45±14.22	51.29±9.83
Control Group (n=40)	86.55±12.03	28.99±5.48	53.49±13.23	57.98±10.92
t	7.494	5.482	6.224	7.285
P	<0.05	<0.05	<0.05	<0.05

5 CONCLUSION

The main factor leading to heart failure is the heavier ventricular load of patients in systole or diastole, which leads to changes in the number and quality of the patient's cardiomyocytes, and decreases in ventricular diastolic and systolic function in patients (Wang, Xie, Li, et al. 2019) According to the results of relevant research data, when a patient has heart failure, it will cause the patient to have pulmonary congestion. As a result, pulmonary infection is formed, and pulmonary infection will lead to an increase in the patient's body metabolism. To maximize myocardial oxygen consumption and increase the patient's heart load, the two interacts form a vicious circle (Wang 2020). In actual development, bronchial mucosal secretion caused by infection will show a general trend of increase. Bronchial spasm and inflammation of the bronchial wall will change, which has a serious impact on the

exchange of gas in the patient's lungs. Increase the patient's lung pressure, and then increase the patient's right heart conformity, the patient has respiratory failure and heart failure. In the case of respiratory failure, it will cause the decrease of CaO2 and PH and promote the increase of CaCO2. Patients are prone to damage to the intima of alveolar capillaries, secondary to hypoxemia, pulmonary edema, and acidosis, which pose a greater threat to the patient's health (Liu 2019).

Trimetazidine is a new drug, mainly used in anti-myocardial ischemia, which can reduce the number of angina pectoris in patients. The corresponding cell protection is mainly through the inhibition of mitochondrial long-chain 3-KAT. Promote myocardial energy metabolism into glucose oxidation, promote energy output, and reduce oxygen free radicals. Promote the full play of anti-myocardial ischemia and cell protection, and improve the heart function of patients (Nie 2020). The decoction of traditional Chinese medicine can achieve the effects of eliminating phlegm, relieving spasm, relieving cough and relieving asthma. Among them, Shegan has the effect of clearing away heat and detoxification. When used together with ephedra, it has the effect of promoting lungs and relieving asthma. It can relieve sweating and relieve cough and diuresis (Zheng 2019). The clinical application effect is remarkable. When the two drugs are used in combination, it is more conducive to promoting the recovery of patients with heart failure and pulmonary infection (Zheng, Yang, Cao, et al. 2019).

To sum up, in the treatment of elderly patients with heart failure and pulmonary infection, trimetazidine and traditional Chinese medicine decoction are used in combination. It is more conducive to promoting the improvement of clinical treatment effects and improving the symptoms of patients. It is significant to promote the recovery of patients and can be promoted and used.

In the process of writing this thesis, I strengthened my professional understanding. I learned more about the principles of being a person and doing things, so that I have a deeper understanding of issues in related professional fields. As this article is about to close, I would like to sincerely thank the people who have helped me. Thank you for the thought guidance for me in the process of writing this thesis. Thank you for your careful guidance during the creation of the thesis. Thank you for reviewing me carefully when the paper is finished. Wish: The students are successful in their studies, and the teachers have pupils everywhere.

REFERENCES

Chen Yan. Clinical efficacy of Shexiang Baoxin Pills combined with trimetazidine in the treatment of heart failure with ischemic cardiomyopathy in the elderly[J]. Diet Health Care, 2020, 007(003): 70-71.

Ji Donghua. The efficacy of trimetazidine in the treatment of heart failure in elderly patients with coronary heart disease and its influence on inflammatory factors in patients[J]. Medical Information, 2019, 32(13):141-142.

Liu Xiaoling. Feasibility analysis of metoprolol combined with trimetazidine in the treatment of elderly patients with coronary heart disease and heart failure[J]. Medical Aesthetics and Cosmetology, 2019, 028(015):51-52.

Nie Yan. Observation of the effect of bisoprolol and trimetazidine in the treatment of elderly patients with coronary heart disease and heart failure [J]. Chinese Community Physician, 2020, 036(008):54,56.

Wang Dayu, Xie Qiang, Li Jianhao, et al. Efficacy of metoprolol and trimetazidine in the treatment of heart failure in elderly patients with coronary heart disease and their effects on cardiac function, myocardial remodeling and inflammatory factors [J]. Chinese prescription drugs, 2019, 17(006):84-85.

Wang Cuiping. The effect of trimetazidine on elderly patients with chronic heart failure and anemia[J]. China Practical Medicine, 2020, 015(007): 146-148.

Zheng Qingmei. Analysis of the efficacy of isosorbide mononitrate combined with trimetazidine in the treatment of heart failure in the elderly[J]. Health Must Read, 2019, 000(002): 149,190.

Zheng Fang, Yang Xixi, Cao Dong, et al. Observation on the curative effect of trimetazidine combined with traditional Chinese medicine on elderly heart failure with pulmonary infection[J]. Chinese Journal of Hospital Infection, 2019, 029(009): 1323 1327.