

Analysis of the progress of Tianma Gouteng decoction combined with antihypertensive drugs in the treatment of hypertension with hyperactivity of liver-yang

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Abstract: Tianma Gouteng decoction is most commonly used by physicians to study the effect of Tianma Gouteng decoction in the treatment of hypertension caused by hyperactivity of liver-yang by combining dipine, sartan, Puli and single or single drug in the control group. In order to know whether the use of Tianma Gouteng decoction in addition or subtraction and in combination with three kinds of antihypertensive drugs will always exceed the effect of single or single use of Tianma Gouteng decoction, and whether the difference of Tianma Gouteng decoction will affect the universality of this conclusion. In this paper, referring to the relevant literature in recent years, twelve doctors were selected to add and subtract Tianma Gouteng decoction and the typical studies on the treatment of hypertension with hyperactivity of liver-yang by Tianma Gouteng Yin and its combination with dipine, sartan and Pril respectively were analyzed. It was found that the dosage and composition of prescriptions used in different TCM syndrome differentiation of different patients were different, and the therapeutic effect of the prescription combined with antihypertensive drugs was very good. And the difference in the use of Tianma Gouteng decoction does not affect the universality of this conclusion. It is expected that this discussion can provide a guiding basis for the clinical treatment of hypertension with hyperactivity of liver-yang.

Keywords: hypertension with hyperactivity of liver-yang; Tianma Gouteng Yin; combined use of drugs; dipine; sartan; prilolol; diuretics; guiding basis

Hypertension (hypertension) is one of the common chronic diseases. According to the report on Nutrition and chronic Diseases of Chinese residents (2015), the prevalence rate of hypertension among residents aged 18 and above in China from 2012 to 2015 was 25.2%, and the incidence of hypertension was on the rise. The number of people with hypertension in China has reached 245 million.^[1] The number of hypertensive patients with hyperactivity of liver-yang accounts for the largest proportion, accounting for about 87.33% of all TCM syndrome types. Traditional Chinese medicine has unique advantages in the prevention and treatment of hypertension.^[2] With the increasing aging of China's population, the incidence of hypertension may show an upward trend, so it is urgent to treat and prevent hypertension^[3]. Oral antihypertensive drugs is a breakthrough in the treatment of hypertension; however, the blood pressure control effect of single application is still not good in some patients^[4]. Traditional Chinese medicine has been widely used in the treatment of hypertension and other chronic diseases, and the curative effect is remarkable and the drug safety is good^[5]. Therefore, the combination of Chinese and western medicine in the treatment of hypertension has attracted people's attention.

1. Etiology and pathogenesis of hyperactivity of liver-yang

Hypertension belongs to the scope of "wind dizziness" in traditional Chinese medicine, the pathological changes involve many organs of heart, liver and kidney, and its changes are in the liver and rooted in the kidney. "Yin deficiency of liver and kidney and hyperactivity of liver yang" is the main pathogenesis. The main treatment is calming liver and latent yang, clearing heat and extinguishing wind^[6]. This syndrome is mostly due to yin deficiency of liver and kidney, unable to

latent yang, making liver yang resistant, or long-term exasperation and anxiety, qi-fire depression, dark consumption of yin fluid, yin does not control yang and yang is high above^[7]. The liver is the dirty of wind wood, sending phase fire inside, body yin and using yang, the main rising initiative. Liver master catharsis, rely on kidney essence nourishment, body yang Sheng, liver yang hyperactivity, over a long period of time into fire and wind, wind rising yang movement, disturbing Qingqiao, then dizziness. Long-term exasperation and depression can lead to liver qi depression and then qi depression and fire, liver yin consumption, yin deficiency and yang hyperactivity, wind and yang rising, disturbing Qingqiao, hair as vertigo. The first is the meeting of Zhuyang, where the sun rises and the wind moves, disturbing the top The eyes and ears are empty, the wind and yang are boiling, and Si is dizzy. " The symptoms are dizziness and headache, dry mouth, red face, irritability, constipation, yellow red urine, red tongue, thin yellow fur and strong pulse^[7].

2. Analysis of the Progress in the treatment of Tianma Gouteng decoction (original prescription)

Tianma Gouteng Yin comes from the new meaning of syndrome and treatment of miscellaneous diseases, which provides a new direction for the treatment of hypertension with hyperactivity of liver-yang^[8]. Tianma Gouteng Yin has the effect of calming the liver and suppressing yang, clearing heat and calming the mind, and drawing blood down^[9]. Dr. ou Meiyuan took 98 patients with hypertension with hyperactivity of liver-yang as the object of this study, and randomly divided them into control group (n = 49) and traditional Chinese medicine group (n = 49). All the patients had symptoms such as red tongue, dizziness and headache, less sleep and more dreams. The control group was treated with western medicine, while the traditional Chinese medicine group was treated with Tianma Gouteng decoction, including *Eucommia ulmoides*, *Gastrodia elata*, mulberry parasite, motherwort, night cross vine, 20 g each, Huang Cen, fried gardenia 15 g each. One dose a day, fried in water, taken separately in the morning and evening. And according to the actual symptoms of patients with addition and subtraction treatment, severe insomnia, increase fried wild jujube kernel, fried cypress seed, Zhiyuan each 15g; severe headache, increase calcined oyster, calcined keel 20g. The comparison of the experimental results shows that Tianma Gouteng decoction is effective in the treatment of hypertension with hyperactivity of liver-yang, which is of great benefit to the optimization of patients' blood pressure and can reduce the symptoms of traditional Chinese medicine at the same time. It can improve the quality of life of patients^[10].

Doctors Liu Yuedian, Ni Wenying and Cai Xinting selected 40 patients with hypertension of hyperactivity of liver-yang as subjects and randomly divided them into control group (n = 20) and observation group (n = 20). The control group was treated with routine western medicine, and the observation group was treated with Tianma Gouteng decoction, which was composed of *Gardenia jasminoides*, *Eucommia ulmoides*, *Scutellaria baicalensis*, mulberry parasite, motherwort, nocturnal vine, *Gastrodia elata*, Fushen, *Achyranthes bidentata* and *Uncaria officinalis* respectively. 18g (fried first). According to the treatment of syndrome differentiation of traditional Chinese medicine, hand and foot hemp plus *Guangdilong* 10g, *Herba Euphorbiae* 12g; sputum plus 6g *Dannanxing*, 10g *Fritillaria chuanensis*; headache plus *Vitex chinensis* and *Ligusticum ligusticum* 10g respectively. Take it with water, one dose a day, in the morning and evening. Every time 200mL. The treatment time was 1 month. The blood pressure level, TCM symptom score and adverse reactions were compared between the two groups. It was found that after treatment, the diastolic blood pressure and systolic blood pressure in the observation group were lower than those in the control group, and the blood pressure in the observation group was shorter than that in the control group, and the score of TCM symptoms in the observation group was significantly lower than that in the control group ($P < 0.05$). There was no significant difference in the incidence of adverse reactions between the two groups ($P > 0.05$)^[11]. These three studies show that on the basis of syndrome differentiation and treatment of traditional Chinese medicine, the total effective rate of Tianma Gouteng decoction in the treatment of hypertension with hyperactivity of liver-yang is better than that of conventional single treatment^[12]. And Tianma Gouteng decoction can effectively reduce the level of blood pressure and improve clinical symptoms, can shorten the time for blood pressure to reach the standard, and the safety of clinical medication is relatively high.

3. Analysis of the progress of Tianma Gouteng decoction combined with three kinds of antihypertensive drugs

3.1 Tianma Gouteng decoction combined with horizon (calcium channel blocker)

Some patients still have symptoms such as vertigo, irritability, palpitation and insomnia after taking amlodipine besylate tablets to the standard of blood pressure management^[13]. After TCM syndrome differentiation, it is found that the symptoms are in line with the scope of Tianma Gouteng Yin, solid in the use of conventional western medicine combined with Tianma Gouteng Yin can improve the corresponding symptoms. Patients with hypertension of hyperactivity of liver-yang were divided into observation group and control group. All the patients met the diagnostic criteria of systolic blood pressure ≥ 140 mmHg and / or diastolic blood pressure ≥ 90 mmHg, grade 2-3^[14] and dialectical symptoms of hyperactivity of liver-yang, such as headache, vertigo, irritability, red tongue, pulse string and so on. The control group was treated with amlodipine tablets and the observation group was treated with amlodipine tablets combined with Tianma Gouteng Yin. The composition was as follows: 20 g of stone cassia, 15 g of Uncaria, 15 g of motherwort, 15 g of night cross vine, 10 g of Gastrodia elata, Gardenia jasminoides, Eucommia ulmoides, mulberry parasite, 10 g of Achyranthes bidentata, Huang Cen and Zhu Fushen. Take it in water, one dose a day, take it separately in the morning and evening. The course of treatment was 14 days. According to the statistical test standard, the levels of systolic blood pressure and diastolic blood pressure in the observation group were lower than those in the control group ($P < 0.05$), and the scores of headache, vertigo, dry mouth and irritability in the observation group were lower than those in the control group ($P < 0.05$). The results showed that the clinical efficacy of Tianma Gouteng decoction combined with amlodipine tablets was significantly improved, and the scores of headache, vertigo, dry mouth and irritability decreased significantly ($P < 0.05$)^[15].

Dr. Feng Kangsheng selected 50 patients with hypertension of hyperactivity of liver-yang as subjects and randomly divided them into group A ($n = 25$) and group B ($n = 25$). Patients in group A were treated with nifedipine sustained-release tablets, 10mg twice a day. Patients in group B were treated with Tianma Gouteng decoction combined with nifedipine. The composition is as follows: stone cassia 18 g, Gastrodia elata, fried Atractylodes macrocephala, Salvia miltiorrhiza, Eucommia ulmoides, mulberry parasite, Achyranthes bidentata each 15 g, Uncaria 12 g, Fushen, Gardenia, motherwort 10 g each. According to the dialectical addition and subtraction drugs of traditional Chinese medicine, 10g of Prunella vulgaris and gentian were added to the syndrome of exuberant liver fire, 15g of oyster and antelope horn for those with vertigo, and 20g for those with yin deficiency. Take water decoction, one dose a day, take it separately in the morning and evening, and each group continues to take medicine for 8 weeks. The total effective rate of group B was higher than that of group A ($P < 0.05$), so the clinical effect of Tianma Gouteng decoction combined with nifedipine in the treatment of hypertension with hyperactivity of liver-yang was significant^[16]. These three experiments show that the therapeutic effect of Tianma Gouteng Yin combined with dipine drugs is better than that of dipine drugs alone.

3.2 Tianma Gouteng decoction combined with sartan antihypertensive drugs (ARB)

Sartan drugs can effectively control the blood pressure of elderly patients with hypertension, the effect of this drug is more lasting, once a day can effectively maintain blood pressure in a more stable state^[17]. However, some patients still have the clinical manifestations of hyperactivity of liver-yang syndrome such as irritability and dryness when their blood pressure drops after taking medicine. On the dialectical basis of traditional Chinese medicine, Tianma Gouteng Yin combined with olmesartan can effectively relieve such symptoms. Ren Hongli and Sun Xiujuan selected 150 patients with hypertension of hyperactivity of liver-yang and randomly divided them into control group ($n = 75$) and treatment group ($n = 75$). The control group was treated with olmesartan once a day and 20~40mg every time. The treatment group was treated with Gastrodia elata and Achyranthes bidentata on the basis of the control group, which was composed of Gastrodia elata, Achyranthes bidentata (15g), Uncaria officinalis (30g), Shi Ceming (20g), Eucommia ulmoides, Poria God, motherwort, mulberry parasite, nocturnal vine, gardenia and Scutellaria baicalensis. One dose a day, fried in water, taken separately in the morning and evening. The clinical effects of the two groups were observed after 8 weeks of treatment, and the changes of blood pressure and TCM syndrome scores of the two groups before and after treatment were compared. According to the results of statistical analysis ($P < 0.05$), the TCM syndrome scores of patients in both groups decreased significantly ($P < 0.05$), and the decrease in the treatment group was more obvious than that in the control group ($P < 0.05$). It is known that Tianma

Gouteng decoction combined with olmesartan has more advantages and high safety in the treatment of essential hypertension with hyperactivity of liver yang^[18].

Sixty-five patients with hypertension with hyperactivity of liver-yang were randomly selected by doctors Huang Zaifeng, Chen Meifang and Chengjian. They were divided into study group (n = 35) and control group (n = 30) by double blind method. The control group was treated with irbesartan, and the study group was treated with Tianma Gouteng Yin combined with irbesartan. The composition is as follows: stone cassia 18g, Uncaria, nocturnal vine, Achyranthes bidentata 12g, Gardenia jasminoides, motherwort, chrysanthemum, Eucommia ulmoides, Gastrodia elata, mulberry parasite, Scutellaria baicalensis, decoction, one dose a day, take in the morning and evening. The treatment time was 3 months. The changes of blood pressure and the effect of treatment in the two groups were analyzed, and there were significant differences in SBP and DBP between the two groups before and after treatment. SBP and DBP in the study group were significantly lower than those in the control group after treatment. After comparing the treatment effect, the total effective rate was 97.14% in the study group and 70.00% in the control group. The study group is higher than the control group, that is, Tianma Gouteng Yin combined with irbesartan can effectively treat hypertensive patients with hyperactivity of liver-yang and improve blood pressure^[19]. The above three studies show that Tianma Gouteng Yin combined with sartan antihypertensive drugs can effectively treat patients with hypertension of hyperactivity of liver-yang, and has high clinical value under the background of combination of traditional Chinese and western medicine.

3.3 Tianma Gouteng decoction combined with ACEI

Prednisone drugs have the effects of lowering blood pressure and anti-heart failure, and are mainly used in the treatment of hypertension and heart failure. However, this drug has side effects, the effect is not ideal, combined with traditional Chinese medicine, the effect can be improved, the total efficiency of treatment has been greatly improved^[20]. Patients with the syndrome of hyperactivity of liver-yang after taking medicine can be used in combination with Tianma Gouteng drink. Dr. Ma Shiqiang selected 56 patients with hypertension as the object of study, all of them were diagnosed as hyperactivity of liver-yang by traditional Chinese medicine, and were randomly divided into two groups with 28 cases each. Comparing the general data of the two groups, there was no significant difference between the two groups ($P > 0.05$). Patients in the control group took captopril with a total dose of 25 mg three times a day and were given with warm water 30 minutes after meal. On the basis of medication in the control group, the observation group was given Tianma Gouteng Yin, which was composed of Gastrodia elata, Uncaria angustifolia, Cassia officinalis, Poria God, Scutellaria baicalensis, Achyranthes bidentata, Gardenia jasminoides, night cross, mulberry parasite and so on. Take it with water, one dose a day, in the morning and evening. The patients were treated continuously for 90 days, and the results showed that the total effective rate of the observation group was higher than that of the control group, which proved that Tianma Gouteng decoction combined with captopril had better antihypertensive effect^[21].

Dr. Dong Suyun randomly divided 120 patients into treatment group (n = 60) and control group (n = 60). The control group was treated with enalapril 10 times a day, 30 minutes after breakfast. The treatment group was treated with Tianma Gouteng decoction combined with enalapril. The treatment group was composed of 15 g of Uncaria, 15 g of stone cassia, 9 g of Gastrodia elata, Gardenia jasminoides, 9 g of Scutellaria baicalensis Georgi, 10 g of Achyranthes bidentata, 10 g of Angelica dahurica, 10 g of Apocynum venetum, 15 g of raw keel, 15 g of raw oyster, 15 g of ground dragon, 20 g of fried wild jujube seed, one dose a day, taken in the morning and evening. After 28 days of treatment, it was found that the antihypertensive effect of the treatment group was significantly better than that of the control group, and it could significantly reduce the systolic and diastolic blood pressure of patients with hypertension, with few adverse reactions, good tolerance, stable and lasting effect, and an effective rate of 95%. It can be seen that Tianma Gouteng decoction combined with enalapril is effective in the treatment of essential hypertension with hyperactivity of liver-yang^[22]. The three groups of experiments show that the clinical effect of Tianma Gouteng Yin combined with priril antihypertensive drugs is better than that of clinical antihypertensive drugs alone.

4. Summary and prospect

In this paper, by consulting the relevant literature in recent years, twelve typical research literatures were selected as references. From the point of view of the researchers, this paper analyzed the progress

of the combination of Tianma Gouteng decoction and Tianma Gouteng Yin in the clinical treatment of hypertension caused by hyperactivity of liver-yang, respectively. The results show that Tianma Gouteng Yin is used no matter under the premise of syndrome differentiation of traditional Chinese medicine. The clinical effect of Tianma Gouteng Yin combined with antihypertensive drugs is better than that of single prescription and single antihypertensive drugs. And the difference in the use of Tianma Gouteng decoction does not affect the universality of this conclusion. Only a few ineffective patients in the study did not affect the overall conclusion. This conclusion provides a valuable clinical guidance for the clinical treatment of hypertension with hyperactivity of liver-yang. The dose of Tianma Gouteng Yin is based on the addition or subtraction of different patients' treatment based on syndrome differentiation. The combination of traditional Chinese and western medicine has achieved good results in the treatment of hypertension with hyperactivity of liver-yang, and its method is worth further exploring and popularizing in other clinical diseases.

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