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Analysis of Anti-infective Treatment and Monitoring of Adverse Reactions in a Case of Pulmonary Infection with Multidrug Resistant Acinetobacter Baumannii

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[Abstract] Objective: To discuss the characteristics of anti-infection treatment of multidrug-resistant acinetobacter baumannii in pulmonary infection and the necessity of pharmaceutical care. **Methods:** Taking a case of pneumonia with multidrug-resistant acinetobacter baumannii indicated by pulmonary alveolar lavage fluid as an example, which was treated by clinical pharmacists in the form of consultation. And expounding the importance of rational use of antibiotics and characteristics of pharmaceutical care by referring to literature and pharmacokinetics. **Results**: Multidrug-resistant acinetobacter baumannii was found by alveolar lavage after admission, and the infection symptoms were not effectively controlled after tigecycline treatment.With the consultation assistance of clinical pharmacists, it was found that the patient had low albumin, which had a great influence on tigecycline with high protein binding rate. Later, cefoperazone sulbactam + tigecycline was used on the premise of albumin supplementation. That is recommended by clinical pharmacists.One week later, the patient's symptoms improved and were discharged. During the treatment, the clinical pharmacist took pharmaceutical care of the patient, timely solved the adverse reaction of vomiting in the early stage of medication, and solved the concerns of doctors. **Conclusions:** In the case of pulmonary infection with multidrug-resistant Acinetobacter baumannii, not only the drug sensitivity list, we should also refer to the pharmacokinetics of drugs and monitor the adverse reactions of drugs in the process of treatment, which has a certain positive significance for the scientific use of antibiotics.

Keywords: Acinetobacter baumannii; Antiinfective therapy; Clinical pharmacist; Pharmacokinetics

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1. Introduction

Lung Infection is an inflammation that occurs in the terminal airway, alveoli, and interstitium of the Lung. It is caused by pathogenic microorganisms, physical and chemical factors, immune damage, allergies, and other factors. The most common clinical pulmonary infection is caused by pathogen infection, such as bacterial infection, fungal infection, viral infection, atypical pathogen infection, etc. bacterial pneumonia is the most common [1]. Acinetobacter baumannii has a strong ability to obtain drug resistance and clonal transmission. Multi drug resistance, wide drug resistance and all drug resistance Acinetobacter baumannii are prevalent all over the world. It has become one of the most important pathogens of nosocomial infection in China. The most common site of nosocomial infection of Acinetobacter baumannii is the lung [2], which is an important pathogen of hospital acquired pneumonia (HAP), especially ventilator-associated pneumonia (VAP). Because Acinetobacter baumannii is a conditional pathogen, patients often have high-risk factors such as low immunity, long-term use of antibiotics, malnutrition and so on before they are infected with Acinetobacter baumannii [3]. The prognosis of patients is often poor.

The author mainly reported the treatment process of a patient with pulmonary acinetobacter baumannii infection, combined with relevant literature guidelines and through analysis and correction of the patient's anti-infection treatment plan. To provide clinicians or pharmacists with relevant experience in the future diagnosis and treatment or consultation process.

2. Summary of Medical Records

An 88-year-old male patient with a history of COPD

was hospitalized due to "cough, sputum and fever for 3 days".The patient had cough, expectoration and paroxysmal cough after catching cold 3 days ago. He coughed light yellow viscous sputum, which was not easy to cough out, accompanied by fever, up to 40.0 °C. Chest CT showed that multiple patchy increased density shadows were found in the posterior segment and lower lobe of the upper lobe of the right lung. After admission, the patient was given cefoperazone sulbactam (3G Q8H IVGTT) + moxifloxacin hydrochloride and sodium chloride injection (0.4g QD IVGTT) for infection treatment. After 3 days of improvement, he coughed and expectorated again. The heat peak reached 39 °C and coughed a small amount of white mucus. The blood routine cell count showed that the leukocyte count was normal, the neutrophil count was 7.87x109/l, and the CRP hint was 70.7mg/l-1. Sputum culture and blood culture were monitored, and amikacin injection (0.4g QD IVGTT) was added for anti infection treatment. After 3 days, the patient's symptoms were still not improved, and he still had fever, cough and expectoration. Reexamination of blood routine showed that white blood cell count was 14.56*109/L and neutrophil count was 7.87x109/L. Sputum culture and blood culture were negative. Bronchoalveolar lavage fluid test was carried out with the consent of the patient and his family. The alveolar lavage fluid showed Acinetobacter baumannii, drug sensitivity showed that he was sensitive to tegacyclin, MIC = 2 ug/ml, resistant to all the rest.

The patient had a history of chronic obstructive pulmonary disease for 20 years. He inhaled Salmeterol Xinafoate and Fluticasone Propionate Powder for Inhalation regularly. He had no history of hypertension and diabetes. He had 35 years of smoking history. And smoked an average of 20 per day. He had quit smoking for 10 years. He has quit smoking for 10 years and no drinking history. Denied a history of drug allergy. Body temperature at admission: 38.0 °C, low respiratory sound on both lungs, dry and wet rales on both lungs.Admission diagnosis: bacterial pneumonia.

3. Treatment Process

On the day of admission, relevant examinations were completed, and symptomatic treatment such as acetyl cysteine, ambroxol expectorant, terbutaline to reduce phlegm and ease asthma was given. Cefoperazone sulbactam (2:1) (3g q8h IVGTT day 1-6) + Moxifloxacin hydrochloride sodium chloride injection (0.4g q24h IVGTT day 1-6) was given anti-infection treatment. The patient felt that the disease symptoms were alleviated.

On the 3rd day after admission, the patient's symptoms worsened, the number of cough and expectoration increased, and the heat peak reached 39 °C. CRP prompt: 70.7mg/l-1, neutrophil count: 7.87x109/l. The doctor thought that the anti infection strength was not enough. After sputum culture and blood culture, amikacin for injection (0.4g q2h IVGTT on the 3rd-6th day) was added to strengthen the anti infection strength.

On the 6th day after admission, the patient still had no improvement in symptoms, still coughed and expectorated, and the heat peak reached 39.3 °C. Blood routine showed that the leukocyte count was 14.56 * 109 / L, and the neutrophil count was 7.87x109/l. Sputum culture and blood culture were negative, and Acinetobacter baumannii was indicated in the alveolar lavage fluid. According to the drug sensitivity prompt, the doctor used tegacyclin for injection (50 mg q12h IVGTT days 6-18 after the load dose of 100 mg on the first day).

On the 8th day after admission, the patient's symptoms and body temperature still did not improve, and the heat peak reached 39.7 °C, and the patient began to have nausea and vomiting. The vomit was the content of the stomach and vomited three times during the day. The doctor invited the clinical pharmacist for consultation. The clinical pharmacist found that the patient's albumin level was low, 25.6g/l. The clinical pharmacist suggested that the patient should be supplemented with albumin, and cefoperazone sulbactam (1:1) (3G q6h IVGTT days 8-18) should be used again for combination therapy. After pharmaceutical consultation and excluding the patient's original disease, the clinical pharmacist considered nausea and vomiting as the adverse reaction of tegacyclin, and recommended routine symptomatic treatment without stopping the drug. In the process of treatment, it is necessary to test the patient's liver and kidney function and blood routine.

On the 12th day after admission, the patient felt that the symptoms were improved, the cough and expectoration were reduced. The sputum was white and easy to cough up, the symptoms of nausea and vomiting did not appear again, the body temperature decreased, the heat peak was 37.8 °C, the blood routine showed that the leukocyte count was 9.56 * 109/L, CRP: 12.5mg/l-1, and the liver and kidney function and coagulation routine of the patient were normal.

On the 18th day after admission, the patient had a stable body temperature, no cough and sputum, normal blood routine, CRP: 10.0mg/l-1, no nausea and vomiting, and was discharged tomorrow.

4. Discussion

4.1 Analysis of Baumannii with Lung Infection

Bacterial pneumonia is the most common cause of pneumonia and the most common type of infection in China. With the aging of the world population, pneumonia in the elderly has become a more and more important clinical problem. Pneumonia is one of the main causes of hospitalization among people over 65, and in some cases is the main cause of death in this population. Even for people over the age of 60, pneumonia is a predictor of increased mortality after the onset of a specific disease and in the years later [4,5]. Although there are cases in which mild pneumonia symptoms can be self limiting, the use of antimicrobial agents is the main means to treat pneumonia. In terms of reducing microbial burden, antimicrobial therapy can reduce the duration of disease, the risk of complications and mortality [6].

Acinetobacter baumannii is a gram-negative bacillus, which can cause serious hospital and community-acquired infection. It is a well-known conditional pathogen [3]. Due to the abuse of antibiotics, Acinetobacter baumannii has become the most common MDR bacteria in China. Acinetobacter baumannii has strong resistance and high drug resistance rate. The guidelines suggest that Acinetobacter baumannii treatment should be combined and used in sufficient dose [7]. According to Chinet, Acinetobacter baumannii in China is generally sensitive to polymyxin, cefoperazone, sulbactam and tegacyclin.

The patient with pulmonary infection in this case is an elderly male with a history of COPD. Considering that the immune defense system of the patient's lung is weak [8]. He came to our hospital for treatment because of bacterial pneumonia. Under the condition of using broad-spectrum antibiotics, only bacteria sensitive to antibiotics were removed, resulting in an increase in the breeding space of antibiotic insensitive Acinetobacter baumannii, which accelerated bacterial reproduction, In addition, due to the original disease COPD and age, the bacterial clearance is too slow, resulting in the aggravation of patients' symptoms [9]. Then, Acinetobacter baumannii was detected in the sterile alveolar lavage fluid. This culture is considered to be meaningful [10]. It needs to be actively treated according to drug sensitivity, so as to prevent the symptoms from aggravating again and even infecting the whole body, resulting in sepsis.

4.2 Analysis of Anti Infection Treatment Scheme of Patients

4.2.1 Rationality Evaluation of the Initial Antimicrobial Treatment Plan before Consultation

The patient was diagnosed with community-acquired pneumonia at the initial admission, however, due to the structural lung disease caused by COPD, structural lung disease is believed to aggravate the risk of Pseudomonas aeruginosa infection in patients [11]. For the initial treatment, drugs that can cover Pseudomonas aeruginosa should be selected. After the patient is admitted to the hospital, generally speaking, anti aeruginosa can be selected β Lactam drugs are used together with quinolones against Pseudomonas aeruginosa. In the initial treatment, cefoperazone sulbactam is considered to have anti aeruginosa activity, and the dosage frequency is consistent with the antibacterial PK/PD theory, but moxifloxacin is not considered to have anti Pseudomonas aeruginosa activity. Recently, it has been proposed that quinolones and fluoroquinolones may cause the risk of aortic aneurysm in the elderly. At present, there is evidence that the elderly are generally after the age of 60. The infection possibility of atypical pathogens becomes smaller, so the use of moxifloxacin does not improve the coverage. Considering the safety, the treatment scheme of moxifloxacin is inappropriate, so it should be considered to use levofloxacin lactate or cefoperazone sulbactam alone [12].

Three days later, the patient symptoms, patient temperature and inflammation index suggest infection is not well controlled, doctors choose to continue to expand the treatment, the patient after the hospital, to aggravation, according to the consensus diagnosis, the patient should consider hospital acquired pneumonia (HAP), repeated infection in the short term, considering the high risk of death, here choose the same anti-aerugin active amikacin, double gram-negative bacteria capping treatment.

4.2.2 Failure Causes and Adjustment Scheme of Tegacyclin Treatment in Consultation

After admission, the doctor gave cefoperazone sulbactam + moxifloxacin + amikacin with antibacterial spectrum including Pseudomonas aeruginosa and most Gram-negative bacteria. After 6 days of treatment, the infection was still poorly controlled. According to the drug sensitivity of alveolar lavage fluid, Acinetobacter baumannii was only sensitive to tegacyclin, but after the doctor started tegacyclin treatment, there was still fever Cough and other symptoms. By consulting the literature, clinical pharmacists found that the phenotypes of common Acinetobacter baumannii genotype 3 and Acinetobacter baumannii genotype 13tu are very similar in biochemistry, so the drug resistance and virulence of the four flora are very similar [13]. Acinetobacter baumannii has many drug resistance pathways, and its enzyme production and membrane protein have changed to common drug resist-

ance pathways [14]. However, according to the results of machine, the sensitivity rate of Acinetobacter baumannii to tegacyclin has always been at a high stage, but tegacyclin has a high protein binding rate. Due to the weight loss of COPD all year round, the patients have poor nutrition and low albumin, only 25 g/L, Hypoproteinemia has a great impact on drugs with high protein binding rate [15].

The literature points out that the clinical significance of protein binding for drugs lies in controlling the free drug binding in the body and playing a role. When drugs with high protein binding rate are affected by hypoproteinemia, due to insufficient protein binding, the increase of free drugs will lead to the abnormal distribution, excretion and metabolism of drugs. Finally, it will cause the decrease of blood drug concentration [16]. After discovering this, the clinical pharmacist pointed it out to the doctor, gave medication education to the patient, informed the patient of the importance of albumin infusion, and the family members expressed their understanding and consent.

In addition, reactivation of cefoperazone sulbactam is also an important part of treatment. For Pan drug resistant bacteria (XDR) sensitive only to tegacyclin, multi drug combination treatment should be used as much as possible even when drug sensitivity indicates that no drugs are available. However, considering the failure of previous treatment with cefoperazone sulbactam, clinical pharmacists found that, the previous manufacturer's specification ratio was 3G per bottle of cefoperazone sulbactam (2:1), that is, only 1g of sulbactam in one dose, and only 3G per day in the case of Q8H infusion.

The guidelines suggest that the common dose of sulbactam in Acinetobacter baumannii infection is 4.0g/d [7,16]. If it is in XDR, it can even be increased to 6.0g/d. Therefore, the ratio of 1:1 is selected for the treatment of cefoperazone sulbactam. At the same time, according to the PK/PD theory, for time-dependent drugs, the time of T > MIC is prolonged, and the dose of sulbactam is also increased to 6.0g/d. The two drugs were treated for 10 days. During this process, the pharmacist communicated with doctors and nurses to prompt the monitoring of patients' coagulation function and renal function. In case of abnormalities, the treatment plan should be adjusted in time [7].

It is a pity that the patient did not receive alveolar lavage and microbiological examination at the later stage of treatment, and the patient did not have a better specific procalcitonin test. Procalcitonin can not only evaluate the curative effect, but also guide the withdrawal of antibiotics and the prognosis of the patient. It has great clinical practical value in anti infection. We need to increase the promotion of calcitonogenen examination in later cases and treatments.

4.3 Monitoring and Analysis of Adverse Reactions by Clinical Pharmacists

The patient developed nausea and vomiting when using tegacyclin on the 8th day of admission. After excluding the symptoms caused by the patient's disease (for example, some pneumonia and stress ulcer can also cause similar symptoms), the clinical pharmacist considered that the adverse reaction of the drug should be caused by tegacyclin according to the time correlation. And use the Nordic adverse reaction related scale to judge, so as to use the causality supported by objective evidence and quantitative test results, to avoid relying on personal empirical judgment [17]. According to the preliminary calculation, the score of tegacyclin is about 7 (Table 1). According to the evaluation, it is considered "likely to be relevant".

As previously mentioned, the tetracycline used in the patients was a high protein binding rate drug. The patient had hypoproteinemia, and tegecycline did not have sufficient albumin for binding, resulting in more free drugs in the blood, increasing the activity of tegecycline, but also increasing the metabolism and excretion of tegec-cycline. Generally, fat soluble compounds are filtered through the glomerulus, then reabsorbed at the renal tubular membrane. But usually the biological transformation reaction in vivo is to produce more polar, inactive metabolites excluded from the body. Tegacyclin loses its pharmacological activity while being biotransformed by the first phase due to too much free state. In addition, tetracycline and glycylcycline drugs have the characteristics of "bone reservoir" [18]. Therefore, the concentration of tegacyclin in the blood increases, but the clearance rate is higher, resulting in the results of treatment not reaching the ideal effect, and the increase of blood concentration leads to the possibility of side effects, so the patients have adverse reactions of nausea and vomiting.

According to the information consulted by the clinical pharmacist, the side effects of nausea and vomiting of tegacyclin generally occur within 1-2 days before infusion, and in view of the necessity of anti infective drugs, the treatment should be continued, and the doctor should be informed to monitor the patient's liver and kidney function and digestive system symptoms [19,20]. On the 12th day after admission, the patient's nausea and vomiting disappeared, and there were no abnormal gastrointestinal symptoms and liver function. On the 18th day, the patient's infection symptoms disappeared, and he will be

Table 1. Nuo's evaluation results of nausea and vomiting caused by tegacyclin

Related issues	Scores			
	Yes	No	Unknown	Rating grounds
1.Whether the ADR was previously conclusive was reported ?	+1			It is suggested in the ABX guidelines that about 20 - 30% of patients may develop nausea and vomiting
2.Whether the ADR occurred after the use of a suspicious drug ?	+2			Nausea and vomiting occur after the use of tegecycline
3. Whether this ADR is relieved after withdrawal or application of an antagonist ?			0	The patient used no antagonist and was not stopped
4.Does the ADR appear after the reuse of a suspicious drug ?			0	The patient did not stop the medication after tetracycline administration
5.Whether there is any other cause of the ADR alone ?		+2		After investigation, there are no other drugs or diseases that can cause nausea or vomiting
6. Is the ADR repeated after a placebo application?			0	The patient did not use a placebo
7.Whether the drug reaches a toxic concentration in the blood or other body fluids ?	+1			The concentration of free drug increased, likely exceeding the treatment concentration
88 Does the ADR increase with an increasing dose?Dose dose reduced and remission? ?			0	The patient did not adjust for the drug dose
9.Whether the patient has been exposed to the same or similar drugs with similar reactions ?			0	The patient had no previous history of glycine ycline or tetracycline
10. Whether there was any objective evidence confirming the response ?	+1			Patient nausea and vomiting without any symptoms or cause can be regarded as objective evidence
Total score	7			

discharged tomorrow. It has been 12 days since tegacyclin was used to treat HAP. It is recommended to stop tegacyclin.

5. Summary

To sum up, the anti-infection treatment plan of the patient was changed several times and suffered many setbacks. However, with the joint assistance of pharmacists, doctors and nurses, the patient recovered from infection and was discharged from the hospital. In this case of senile pneumonia caused by hospital acquired Acinetobacter baumannii, we deeply realize that anti infection treatment is not as simple as using correct antibiotics to cover possible pathogens and target treatment. We also need to know the PK/PD characteristics of drugs, the analysis of in-depth drug sensitivity reports, the distribution and metabolism of drugs, so that, even the same drug treatment will be very different in the treatment results. In the treatment of tegacyclin, a drug with high protein binding rate, we must pay attention to the patient's albumin value and liver function. Otherwise, in the treatment, the binding protein may be insufficient due to the low albumin, and the free tegacyclin may be metabolized, resulting in poor treatment effect. In addition, we should pay attention to the adverse reactions of tegacyclin during treatment. The most common adverse reaction is nausea and vomiting, but it usually disappears within 1-2 days. Only symptomatic treatment is needed. In the case of middle-aged and elderly patients, special attention should be paid to the liver and kidney function of patients. If there are abnormalities or adverse reactions such as pancreatitis, timely measures should be taken to avoid the aggravation of adverse reactions.

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Effect Analysis of Jinsang Sanjie Pill Combined with Microwave Physiotherapy in the Treatment of Chronic Laryngitis

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Abstract: Objective: To evaluate the effect of Jinsang Sanjie pill combined with microwave physiotherapy on patients with chronic laryngitis. **Methods:** 150 patients with chronic laryngitis in the outpatient department of Otorhinolaryngology of Zhongshan Nanlang hospital from January 2019 to January 2021 were selected and randomly divided into two groups, 75 cases in each group. The control group was treated with microwave physiotherapy, and the observation group was treated with Jinsang Sanjie pill combined with microwave physiotherapy. **Results:** The total effective rate of the observation group (98.67%) was higher than that of the control group ($P < 0.05$). The whole blood high shear viscosity (3.25 ± 0.23) MPa · s, whole blood low shear viscosity (6.33 ± 0.45) MPa · s, plasma viscosity (1.50 ± 0.25) MPa · s and erythrocyte sedimentation rate (15.39 ± 3.46) mm / h in the observation group were lower than those in the control group, with statistical significance ($P < 0.05$). The longest pronunciation time (19.88 ± 6.39) s and dysphonia index (1.95 ± 1.42) of the observation group were higher than those of the control group, and the fundamental frequency perturbation (0.32 ± 0.05)%, amplitude perturbation (1.33 ± 0.12)%, and noise to harmonic ratio (0.11 ± 0.03)% of the observation group were lower than those of the control group, with statistical significance ($P < 0.05$). **Conclusions:** The curative effect of Jinsang Sanjie pill combined with microwave physiotherapy is accurate for patients with chronic laryngitis, which is worthy of promotion.

Keywords: Chronic laryngitis; Jinsang Sanjie pill; Microwave physiotherapy; Hemorheology index; Voice acoustic analysis test

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1. Introduction

Chronic laryngitis (CL) belongs to the inflammation of larynx. It is a common disease in otolaryngology. The disease is an important factor leading to hoarseness.The high incidence group of chronic laryngitis is teachers, singers, salesmen, etc. The common symptoms of the disease are dry throat, hoarseness, etc. [1,2]. In order to evaluate the effect of Jinsang Sanjie pill combined with microwave physiotherapy in the treatment of chronic laryngitis, 150 patients with chronic laryngitis in our hospital were selected for this study.

2. Materials and Methods

2.1 Baseline Information

150 patients with chronic laryngitis in the outpatient department of Otorhinolaryngology were selected. The patients were treated from January 2019 to January 2021. They were randomly divided into control group and observation group. The control group (75 cases) was treated with microwave physiotherapy, and the observation group (75 cases) was treated with Jinsang Sanjie pill combined with microwave physiotherapy. In the control group, there were 40 female patients and 35 male patients;the average age was (46.32 ± 6.32) years old; the course of disease ranged from 6 months to 11 years, with an average of (4.28 ± 1.33) years. In the observation group, there were 38 female patients and 37 male patients. The average age was (46.58 ± 6.28) years old. The course of disease ranged from 8 months to 10 years, with an average of (4.55 ± 1.29) years. There was no significant difference between the two groups ($P > 0.05$).

Inclusive criteria: (1) The duration of disease was

more than 2 months; (2) All patients had hoarseness, dry throat and pain; (3) The patient's data were complete. Exclusion criteria: (1) patients with allergic constitution; (2) patients with mental diseases; (3) patients with severe cerebrovascular disease.

2.2 Method

In the control group, patients were treated with microwave physiotherapy intervention, using microwave therapeutic instrument (manufacturer: Nanjing Yigao Microwave System Co., Ltd., model: eco-100), adjusting the frequency to 2450MHz, adjusting the power to 15W ~ 20W. The treatment time was 10 minutes.

The observation group was treated with Jinsang Sanjie pills (manufacturer:Manufacturer: Xi'an Beilin Pharmaceutical Co., Ltd., approval number: z61020024, specification: 0.4g * 18 pills * 1 plate) combined with microwave physiotherapy, take Jinsang Sanjie pills orally, twice a day, 0.8g ~ 1.6g each time.

2.3 Observation Index

(1) The total effective rate of two groups of patients with chronic laryngitis was calculated. Effect evaluation criteria: after treatment, hoarseness and other symptoms disappeared completely, and the sound time was more than 20 seconds;after treatment, hoarseness and other clinical symptoms and signs disappeared, and it was effective when the sound time was more than 15 seconds; patients after treatment did not meet the above conditions for invalid.

(2) The changes of hemorheology indexes of the two groups were calculated, including whole blood high shear viscosity, whole blood low shear viscosity, whole blood reduced viscosity, plasma viscosity, ESR and whole blood reduced viscosity.

(3) The voice acoustic analysis test results of two groups of patients with chronic laryngitis were calculated, and the patients were tested with atmos voice acoustic analysis test software, including the longest pronunciation time, dysphonia index, fundamental frequency perturbation, amplitude perturbation and noise to harmonic ratio.

2.4 Statistical Processing

Spss23.0 statistical software was used to process the data of the two groups of patients with chronic laryngitis. The expression of the total effective rate was (%). The changes of hemorheology indexes and the results of voice acoustic analysis were expressed by (mean ± standard deviation), and the differences were expressed by chi square test and t test.If there is statistical significance, then ($P < 0.05$).

3. Results

3.1 The total effective rate of two groups of patients with chronic laryngitis was compared

The total effective rate of the observation group was higher than that of the control group ($P < 0.05$). See Table 1.

3.2 Comparison of hemorheological indexes between two groups of patients with chronic laryngitis

The whole blood high shear viscosity, whole blood low shear viscosity, plasma viscosity and ESR of the observation group were lower than those of the control group ($P < 0.05$). See Table 2.

3.3 Comparison of voice acoustic analysis results of two groups of patients with chronic laryngitis

The longest phonation time and dysphonia index of the observation group were higher than those of the control group, and the fundamental frequency perturbation, amplitude perturbation and noise to harmonic ratio of the observation group were lower than those of the control group ($P < 0.05$). See Table 3.

Table 1. Comparison of total effective rate between groups {n (%)}

Group	Remarkable effect	Effective	Invalid	Total effective rate
Observation group (n = 75)	31(41.33)	43(57.33)	1(1.33)	74(98.67)
Control group (n = 75)	20(26.67)	46(61.33)	9(12.00)	66(88.00)
χ^2value	-	-	-	6.8571
P value	-	-	-	0.0088

Table 2. Comparison of hemorheological indexes between groups $\{\bar{x} \pm s\}$

Group	Whole blood high shear viscosity (MPA · s)	Whole blood low shear viscosity (MPA · s)	Whole blood reduced viscosity (MPA · s)	Plasma viscosity (MPA · s)	ESR (mm / h)
Observation group (n = 75)	3.25±0.23	6.33±0.45	7.51±3.26	1.50±0.25	15.39±3.46
Control group (n = 75)	4.12±0.35	7.25±0.55	8.33±3.12	1.60±0.25	20.31±4.48
T value	17.9901	11.2117	1.5737	2.4494	7.5272
P value	0.0000	0.0000	0.1177	0.0155	0.0000

Table 3. Comparison of voice acoustic analysis test results between groups $\{\bar{x} \pm s\}$

Group	Maximum pronunciation time (s)	Dysphonia index	Fundamental frequency perturbation (%)	Amplitude perturbation (%)	Noise to harmonic ratio (%)
Observation group (n = 75)	19.88±6.39	1.95±1.42	0.32±0.05	1.33±0.12	0.11±0.03
Control group (n = 75)	15.33±5.28	1.44±1.63	0.40±0.11	1.41±0.26	0.19±0.05
T value	4.7536	2.0430	5.7338	2.4194	11.0227
P value	0.0000	0.0428	0.0000	0.0168	0.0000

4. Discussion

Chronic laryngitis belongs to the category of "slow laryngitis" in traditional Chinese medicine, which is caused by improper use of vocal cords for a long time. Chronic laryngitis patients with pharyngeal mucosa congestion, tissue hyperplasia, some patients with suppurative problems [3-5]. Microwave physiotherapy is a common treatment method in otorhinolaryngology. When the microwave irradiates the diseased part, the diseased tissue will heat up rapidly. When the temperature of a certain part exceeds a certain threshold, the human body will produce self-protection reaction, that is, strengthening the blood supply to the part, improving the blood circulation conditions of the diseased part, and increasing the nutrition of the diseased part, so as to open up the capillaries blocked by compression, make the blood circulation of this part tend to be normal, and make the inflammation disappear gradually. Microwave itself has the characteristics of sterilization, coupled with the thermal effect of sterilization, so as to achieve the purpose of dredging collaterals and anti-inflammatory [6-9]. Jinsang Sanjie pill is a traditional Chinese medicine preparation, which contains safflower, peach kernel, Fritillaria, Jineijin, honeysuckle, dandelion, Scrophularia, isatis root, Ophiopogon japonicus and other ingredients. Safflower has the effect of promoting blood circulation and removing blood stasis, peach kernel has the effect of removing carbuncle, breaking blood stasis, and improving gastrointestinal function. Ophiopogon japonicus has the effect of moistening dryness, nourishing Yin, moistening lung and promoting body fluid. Combined with Fritillaria can better relieve the cough symptoms of patients. Drugs play the role of removing blood stasis, promoting blood circulation and evacuating internal heat. Modern pharmacology has proved that oral administration of Jinsang Sanjie pillhas no obvious effect on liver and kidney and has high safety. On the basis of microwave physiotherapy combined with Jinsang Sanjie pill can better achieve the effect of detoxification, heat clearing, blood stasis, phlegm and dampness. According to the results of this study, the total effective rate of the observation group was higher than that of the control group, the whole blood high shear viscosity, whole blood low shear viscosity, plasma viscosity and ESR of the observation group were lower than those of the control group, the longest pronunciation time and dysphonia index of the observation group were higher than those of the control group, and the fundamental frequency perturbation, amplitude perturbation and noise harmonic ratio of the observation group were lower than those of the control group, with statistical significance ($P < 0.05$).

To sum up, Jinsang Sanjie pill combined with microwave physiotherapy has a significant effect in the treatment of chronic laryngitis, which has the value of use and promotion.

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Nursing Intervention of Negative Emotion in Patients with Viral Hepatitis Treated with Interferon

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Abstract: Objective: To evaluate the effect of nursing intervention on negative emotion of patients with viral hepatitis treated with interferon. **Methods:** 72 patients with viral hepatitis in our hospital from May 2020 to May 2021 were selected and divided into the control group and the observation group according to the coin method, 36 cases/group, providing routine intervention for the control group and nursing intervention for the observation group. **Results:** The incidence of adverse reactions (Weight loss rate, leucopenia rate, thrombocytopenia rate and hair loss rate) in the observation group (5.56%) was lower than that in the control group (27.78%), ($P < 0.05$) with statistical significance. The SAS anxiety score (32.63 ± 3.25) and SDS depression score (31.25 ± 4.23) of the observation group were lower than those of the control group (41.15 ± 4.89) and (40.13 ± 4.89), and the PSQI sleep quality score of the observation group (5.01 ± 0.36) was lower than that of the control group (9.89 ± 1.25), ($P < 0.05$) with statistical significance. The treatment compliance of the observation group (100.00%) was higher than that of the control group (83.33%), ($P < 0.05$) with statistical significance. **Conclusions:** The application of nursing intervention in the treatment of viral hepatitis patients with interferon can significantly improve the negative emotions of patients, which is worthy of promotion.

Keywords: Viral hepatitis; Interferon; Negative emotion; Nursing intervention

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1. Introduction

Viral hepatitis is a common disease in the liver system. Most of the diseases are caused by hepatitis C virus infection, and the prevalence rate of the disease after infection will be as high as 70%. Interferon is widely used in clinical treatment, but adverse reactions and serious negative emotions are prone to appear in interferon treatment, which needs to be paid more attention to in clinical practice [1,2]. In order to evaluate the effect of nursing intervention in the treatment of viral hepatitis patients with negative emotions, 72 patients with viral hepatitis in our hospital were selected to carry out the research.

2. Materials and Methods

2.1 Baseline information

72 patients with viral hepatitis in our hospital were included in the study. The patients were divided into two groups by coin method from May 2020 to May 2021. The control group (36 cases) received routine intervention, and the observation group (36 cases) received nursing intervention. In the control group, there were 21 male patients and 15 female patients. The youngest was 25 years old, the oldest was 69 years old, the average age was (46.65 ± 5.23) years old. In the observation group, there were 22 male patients and 14 female patients. The youngest was 24 years old and the oldest was 70 years old. The average age was (46.33 ± 5.72) years old. There was no significant difference in baseline data between the two groups ($P > 0.05$).

Inclusion criteria: (1) The patients met the diagnostic criteria of viral hepatitis. (2) The patient's age was more than 18 years old. (3) The patients' psychological stress level was normal, and they had good communica-

tion ability and expression ability. Exclusion criteria: (1) Psychiatric patients (2) Patients with hematological diseases (3) Patients with history of sedative allergy in the first 3 months were enrolled.

2.2 Method

Two groups of patients with viral hepatitis were treated with interferon. The patients were provided with recombinant human interferon α2a suppository (Changsheng Dejia) produced by Changchun Institute of Biological Products Co., Ltd. with approval number: Guoyao Zhun Zi s19991019, specification: 500000 IU * 3 pieces. Before treatment, thyroid function test, blood glucose test, liver and kidney function test, urine routine test and blood routine test were provided for patients. Women (married and child-bearing) need to receive human chorionic gonadotropin test, and carry out treatment on the basis of confirming that patients meet the requirements of interferon treatment. Using subcutaneous injection, the dose is once a week, each time the dose is 180 μg.

In the control group, patients were given routine intervention to observe whether there were adverse reactions during the treatment. If there were adverse reactions, doctors should be informed in time for treatment and drug education.

In the observation group, the patients were given nursing intervention. (1) Before the use of nursing, we need to explain the indications, treatment effect and possible adverse reactions of interferon for patients before treatment, let patients know the side effects of interferon, combined with the understanding ability of patients, carry out propaganda and education for patients, inform patients that the adverse reactions are temporary, do a good job in the observation of patients' emotions, and improve the degree of cooperation of patients. (2) During the treatment, the patients need to take medicine according to the doctor's advice. During the injection, the injection position needs to be changed frequently to reduce the patients' muscle pain and local reaction. Fatigue and muscle soreness will appear in 3-8 hours after interferon injection, so we can adjust the time of drug injection for patients to spend adverse reactions in sleep. In addition, provide necessary psychological nursing intervention for patients, pay attention to the emotional changes of patients, strengthen propaganda and education, guide patients' self-health detection and nursing, actively answer patients' questions, reduce patients' stress reaction. (3) The nursing after drug withdrawal, under the guidance of the doctor, should be followed up regularly after drug withdrawal. After drug withdrawal, thyroid function should be detected every 3 months, and liver function should be detected every 6 months.

2.3 Observation index

(1) The incidence of adverse reactions including weight loss, leucopenia, thrombocytopenia and alopecia were calculated. (2) SAS anxiety score, SDS depression score and PSQI sleep quality score were calculated. SAS score, SDS score and PSQI score were inversely correlated with anxiety, depression and sleep quality. (3) The treatment compliance of the two groups was calculated. The evaluation standard of compliance: according to the patient's compliance with the doctor's advice, it can be divided into non-compliance, partial compliance and complete compliance.

2.4 Statistical processing

Statistical software spss23.0 was used to process the data of two groups of patients with viral hepatitis. The incidence of adverse reactions and treatment compliance (%) wAS expressed, and the differences between groups were analyzed by chi square test. SAS score, SDS score and PSQI score were expressed by (mean ± SD), and the differences between groups were analyzed by t test. With statistical significance, then ($P < 0.05$).

3. Results

3.1 Two groups of patients with viral hepatitis incidence of adverse reactions compared

As shown in Table 1, the incidence of adverse reactions in the control group was significantly higher than that in the observation group, with significant difference between groups, ($P < 0.05$) with statistical significance.

3.2 The bad mood and sleep quality of two groups of patients with viral hepatitis were compared

As shown in Table 2, there was no significant difference in the bad mood and sleep quality between the two groups before nursing. There was no statistical significance ($P > 0.05$). After nursing, the SAS score, SDS score and PSQI score of the observation group were lower than those of the control group, and there was significant difference between the two groups, (($P < 0.05$) with statistical significance.

3.3 Comparison of treatment compliance between two groups of patients with viral hepatitis

As shown in Table 3, the treatment compliance of the control group was lower than that of the observation group, and there was significant difference between the two groups, ($P < 0.05$) with statistical significance.

Table 1. Comparison of the incidence of adverse reactions between the two groups {n (%)}

Group	Weight loss	Leukopenia	Thrombocytopenia	Alopecia	Adverse reaction rate
Observation group (n = 36)	2(5.56)	0(0.00)	0(0.00)	0(0.00)	2(5.56)
Control group (n = 36)	5(13.89)	2(5.56)	2(5.56)	1(2.78)	10(27.78)
χ^2value	-	-	-	-	6.4000
P value	-	-	-	-	0.0114

Table 2. Comparison of bad mood and sleep quality between two groups of patients with viral hepatitis {($\overline{x}$±s)score}

Group	SAS score		SDS score		PSQI score	
	Before nursing	After care	Before nursing	After care	Before nursing	After care
Observation group (n = 36)	58.69±6.23	32.63±3.25	59.64±7.52	31.25±4.23	15.46±2.22	5.01±0.36
Control group (n = 36)	58.49±6.11	41.15±4.89	59.49±7.55	40.13±4.89	15.29±2.19	9.89±1.25
T value	0.1375	8.7064	0.0844	8.2404	0.3270	22.5090
P value	0.8910	0.0000	0.9329	0.0000	0.7446	0.0000

Table 3. Comparison of treatment compliance between two groups of patients with viral hepatitis {n (%)}

Group	Noncompliance	Partial compliance	Full compliance	Compliance rate
Observation group (n = 36)	0(0.00)	12(33.33)	24(66.67)	36(100.00)
Control group (n = 36)	6(16.67)	19(52.78)	11(30.56)	30(83.33)
X2 value	-	-	-	6.5455
P value	-	-	-	0.0105

4. Discussion

Interferon is a common drug in the treatment of viral hepatitis. It has a wide range of application and significant curative effect. It is recognized as an effective drug in clinic. However, the treatment of interferon is more expensive, prone to many adverse reactions, patients will appear great negative emotions during the treatment [3]. Providing effective nursing intervention during the treatment of patients with viral hepatitis has a positive effect on improving the adverse reactions and negative emotions of patients. The incidence rate of viral hepatitis is high, patients have a long time of illness and need long-term medication. In addition, patients in long-term treatment are vulnerable to disease interference, adverse reactions, affect sleep and mood, reduce the quality of life of patients [4,5]. Nursing intervention, through the use of pre care can better help patients prepare for psychological, reduce the stress of patients, improve patient compliance. Through the nursing during the treatment, it can reduce the local reactions and adverse reactions of patients, actively communicate with patients, and strengthen the detection, which can reduce the adverse emotions and psychological problems of patients [6]. Through the nursing after drug withdrawal, patients can be informed to take active and regular detection to reduce the adverse reactions of patients [7]. According to the results of this study, the incidence of adverse reactions such as weight loss rate, leucopenia rate, thrombocytopenia rate and hair loss rate in the observation group were lower than those in the control group, the SAS anxiety score and SDS depression score in the observation group were lower than those in the control group, the PSQI sleep quality score in the observation group was lower than that in the control group, and the treatment compliance in the observation group was higher than that in the control group, ($P < 0.05$) with statistical significance.

In conclusion, the nursing intervention of negative emotions in patients with viral hepatitis during interferon treatment can effectively improve the compliance of patients, improve the bad mood and sleep quality of patients, reduce the incidence of adverse reactions, and has the value of use and promotion.

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Analysis on Influencing Factors and Preventive Measures of Traditional Chinese Medicine Dispensing Quality

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Abstract: Objective: To study the factors affecting the dispensing quality of traditional Chinese medicine and give the corresponding preventive measures. **Methods:** 50 patients with quality problems of traditional Chinese medicine dispensing in our hospital from February 2018 to February 2020 were divided into observation group and control group to analyze the causes of the problems. **Results:** The number of patients with cross bucket problem was 23, accounting for 46.00%; There were 13 patients with poor quality of traditional Chinese medicine, accounting for 26.00%; There were 8 cases of unclear drug delivery explanation, accounting for 16.00%; There were 2 cases with dose problems, accounting for 4.00%; There were 2 cases of drug confusion, accounting for 4.00%; There was 1 case of missing drugs, accounting for 2.00%; There was one patient with incorrect footnote execution, accounting for 2.00%. **Conclusions:** The factors affecting the quality of traditional Chinese medicine dispensing are cross bucket problem, dose error, drug distribution, etc. among them, cross bucket problem is the most important factor, which should be paid attention to and necessary measures should be taken to prevent it.

Keywords: The quality of traditional Chinese medicine dispensing; Influencing factors; Preventive measures

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1. Introduction

When patients choose traditional Chinese medicine to treat diseases, they often need targeted treatment according to the specific situation of patients, so the requirements for traditional Chinese medicine dispensing are also different. Traditional Chinese medicine dispensing refers to dispensing drugs for patients according to the prescriptions issued by doctors. In this process, processing drugs, traditional Chinese medicine theory and other aspects need to be involved. If there are errors in the dispensing process, the efficacy of prescriptions will be affected and patients will be harmed [1]. In order to strengthen the safety of traditional Chinese medicine dispensing, 50 patients with traditional Chinese medicine dispensing quality problems in our hospital were selected to analyze the factors affecting the quality of traditional Chinese medicine dispensing and the corresponding preventive measures. The research results are as follows.

2. Data and Methods

2.1 General Information

50 patients with problems in the quality of traditional Chinese medicine dispensing in our hospital from February 2018 to February 2020 were selected, including 27 male patients and 23 female patients. The maximum age of the patients was 67 years old, the minimum age of the patients was 45 years old, and the average age was (57.67 ± 5.73) years old.

2.2 Methods

The cases of all patients participating in this study were analyzed, and the factors affecting the quality of traditional Chinese medicine dispensing were summarized.

2.3 Evaluation criteria

The number of quality problems of traditional Chinese medicine dispensing in patients participating in this study was counted, and the proportion of each influencing factor was calculated.

2.4 Statistical analysis

SPSS 24.0 statistical software was used to process the data, and the counting data were expressed in (n /%), χ 2 test, the measurement data are expressed in (± s), t test, $P < 0.05$ was considered statistically significant.

3. Results

The factors affecting the quality of traditional Chinese medicine dispensing are summarized in Table 1.

Table 1. Factors affecting the quality of traditional Chinese medicine dispensing [n /%]

Group	Cross bucket problem	Poor quality of traditional Chinese medicine	Unclear drug delivery explanation	Dose problem	Drug confusion	Missing drugs	Incorrect footnote implementation,
Number of cases	23	13	8	2	2	1	1
Proportion (%)	46.00	26.00	16.00	4.00	4.00	2.00	2.00

4. Discussion

The traditional Chinese medicine prescription in our hospital adopts electronic prescription, so the traditional prescription is scrawled and difficult to identify, and the deployment quality problem caused by it no longer exists. However, in the research on the quality of traditional Chinese medicine dispensing in our hospital, it is found that there are some problems, such as cross bucket problem, poor quality of traditional Chinese medicine, unclear drug delivery explanation, dose problem, drug confusion, missing drugs, incorrect footnote implementation, etc. The following summarizes the factors affecting the quality of traditional Chinese medicine dispensing and gives solutions.

First, the problem of cross bucket and its solutions. It is possible that one or more of a patient's traditional Chinese medicine may be misplaced with other drugs, resulting in wrong prescription allocation and affecting the treatment effect. The primary reason for the occurrence of cross bucket is that the bucket spectrum is not standardized. The drugs in the traditional Chinese medicine pharmacy are placed in the medicine bucket, and dozens of medicine buckets form the medicine dispensing cabinet used in the traditional Chinese medicine room. Because there are many drugs in the traditional Chinese medicine room, in order to facilitate the work of dispensing personnel, the drugs need to be arranged in the medicine bucket, and this arrangement method is called bucket spectrum. When the bucket spectrum arrangement is unscientific, for example, three different grids with different performance and efficacy drugs are packed in the same drawer, it is easy to bring one drug to another, resulting in the phenomenon of cross bucket, and it is difficult for the dispensing personnel to find the drugs quickly and accurately, which is easy to lead to mistakes. Our hospital now uses traditional Chinese medicine small packaging and traditional Chinese medicine granules. New medicine racks are placed on both sides of the corridor, arranged with the initials of the medicine name from A to Z, but there is a new situation of cross bucket. Adjacent drugs will cross each other through the partition gap, and the outer packaging is very similar, which should not be recognized by the dispensing personnel, resulting in deployment errors. To solve this problem, the following measures can be taken: (1) Strengthen the daily management of traditional Chinese medicine room to ensure the correct storage position of drugs; (2) The dispensing personnel need to enhance their sense of responsibility and improve their work detail; (3) The verification personnel shall increase the comprehensiveness of the verification work to ensure the correctness of each paste of traditional Chinese medicine.

Second, poor quality of traditional Chinese medicine and its solutions. The variety of traditional Chinese medicine is abundant. With the increase of human activity space, the environmental scope suitable for the growth of traditional Chinese medicine is shrinking, and the dosage of traditional Chinese medicine is increasing, so artificial planting is needed. The quality of artificially planted traditional Chinese medicine is uneven. On the one hand, it is difficult for artificial planting to meet the conditions of natural growth, and many planting personnel lack relevant traditional Chinese medicine planting knowledge, which makes the quality of planted traditional Chinese medicine poor [1]. On the other hand, in order to make higher profits, many traditional Chinese medicine growers will overuse pesticides and other substances in the planting process, resulting in a significant decline in the quality of traditional Chinese medicine. From the above aspects, it can be seen that the quality of traditional Chinese medicine decoction pieces made from this traditional Chinese medicine is unqualified, And after the processing of traditional Chinese medicine into traditional Chinese medicine decoction pieces, it needs to go through long-term storage, transportation and other steps. During this period, if the storage conditions of traditional Chinese medicine decoction pieces are unqualified or the transportation conditions are inappropriate, the quality of traditional Chinese medicine decoction pieces will be reduced. And many illegal vendors in order to seek more benefits will also be mixed with some inferior drugs, which will further affect the quality of drugs. To solve this problem,

hospitals and relevant drug supervision departments need to take effective prevention measures to ensure the quality of purchased drugs [2]. First of all, the hospital should select regular and qualified manufacturers, and send special personnel to inspect the manufacturers in all aspects. Secondly, in the process of traditional Chinese medicine dispensing, dispensing personnel should check the quality of drugs, and report to the hospital in time once they find inferior drugs purchased. Finally, the relevant drug supervision departments need to strengthen supervision, inspect and manage the operation, storage conditions and transportation of traditional Chinese medicine, and severely crack down on the circulation of inferior traditional Chinese medicine in the market;

Third, unclear drug delivery explanation and its solutions. The last step in the process of TRADITIONAL CHINESE MEDICINE dispensing is dispensing. When the dispensing, dispensing personnel need to check the patient's information during dispensing, and then they need to check the drugs according to the prescription to avoid mistakes. Finally, dispensing personnel need to inform patients of the use of drugs and precautions. In the process of dispensing drugs, dispensing personnel may not clearly explain the method of taking drugs, decocting methods and other matters needing attention, which may lead to mistakes in the process of decocting drugs and medication, thus affecting the therapeutic effect [3]. The reasons for the above problems are often caused by the non-meticulous work of dispensing personnel in the process of dispensing drugs, the unstable basic knowledge of dispensing personnel and so on. In order to avoid the above problems, the following measures can be taken for effective prevention. On the one hand, the professional skills training of dispensing personnel should be strengthened, so that the dispensing personnel can skillfully master the incompatibility, the decocting methods of various drugs, the precautions during medication, etc. On the other hand, it can effectively manage the dispensing process and formulate the detailed process of traditional Chinese medicine dispensing, so that the dispensing personnel can act according to the process, which can greatly avoid problems in the dispensing process [4].

Fourth, dose problems and their solutions. To ensure the correctness of the prescription, it is necessary to ensure the quality of the drugs, medication methods, decoction methods and other factors. In addition to the above factors, the dose of drugs also has a great impact on the efficacy of the prescription. In the actual traditional Chinese medicine dispensing, a variety of drugs need to be used, and there are many patients, which increases the workload of the dispensing personnel. In order to speed up the work efficiency, some dispensing personnel will directly grab the drugs by hand and determine the dose according to past experience and feelings, which will lead to errors, making the dose of some drugs insufficient or excessive. However, with the use of small packaging of traditional Chinese medicine decoction pieces and the emergence of traditional Chinese medicine granules, the dose problems caused by the above problems are significantly reduced. The small packaging of traditional Chinese medicine decoction pieces is the electronic weighing and packaging. Traditional Chinese medicine granules refer to using modern technology to extract the effective ingredients of traditional Chinese medicine into small particles. However, there are still new problems in the actual work. For example, in the actual drug dispensing process, 3g / package may be payable, 5g / package may be paid, etc. Therefore, it is necessary to check and confirm the dispensing of drugs by dispensing personnel to ensure the correct dosage of drugs.

Fifth, drug confusion and its solutions. There are many kinds of traditional Chinese medicine, and the names of many drugs are very similar. Under the great work pressure, the dispensing personnel will make mistakes. If the dispensing personnel do not work carefully, it will also lead to the confusion of patients' drugs. This study found that during the preparation of traditional Chinese medicine, Evodia rutaecarpa and Cornus officinalis, Bulb of Thunberg Fritillary and Tendril-leaf fritillary bulb, Red peony and White peony are confused, which will not only affect the efficacy of the prescription, but also affect patients [5]. To solve this problem, firstly, it is necessary to improve the seriousness of dispensing personnel's work, and secondly, to check and inspect the drugs after dispensing.

Sixth, missing drugs and their solutions. In the process of traditional Chinese medicine dispensing, there are few drug omissions. The direct cause of this problem is the negligence of the dispensing personnel. This requires the dispatcher to pay more attention to avoid omissions in the work, and check again after the deployment.

Seventh, incorrect footnote implementation and its solutions. When doctors issue prescriptions again, they will mark on the upper right or lower left corner of the name of the prescription Chinese medicine according to the needs of treatment to remind dispensing personnel, who need to operate according to the footnote content. In order to avoid problems in this process, it is necessary to

check before the end of the deployment.

According to the research results of this paper, there are several problems leading to the deployment of traditional Chinese medicine, such as cross bucket problem, poor quality of traditional Chinese medicine, unclear dispensing explanation, dose problem, drug confusion, drug omission and incorrect footnote implementation. The factor with the largest proportion is cross bucket problem, followed by poor quality of traditional Chinese medicine and unclear dispensing explanation, and the factor with the smallest proportion is missing drugs, incorrect footnote implementation, etc. It can be seen that the quality problems of traditional Chinese medicine dispensing are mainly caused by the mistakes of doctors, drugs and dispensing personnel. So for maximum to avoid the traditional Chinese medicine dispensing quality problems, it is necessary to improve and improve the professional level and sense of responsibility of doctors and dispensing personnel from the aspects of doctors, drug quality and dispensing personnel, Regularly train doctors and dispensing personnel to improve their professional level. Regular assessment can be conducted, and additional rewards can be given to those with excellent assessment results, so as to stimulate the learning enthusiasm of doctors and dispensing personnel. In addition, the quality of traditional Chinese medicine shall be strictly reviewed, and the quality level of traditional Chinese medicine dispensing shall be tested regularly to ensure the therapeutic effect.

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Evaluation of the Clinical Efficacy and Safety of Gongyanping Capsule Combined with Tinidazole Tablets in the Treatment of Patients with Acute Cervicitis

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Abstract: Objective: To study the therapeutic effect of Gongyanping capsule+tinidazole tablets in patients with acute cervicitis. **Methods:** Data were collected from 84 patients with acute cervicitis admitted to our hospital from January 2020 to October 2020. The "double-blind method" was divided into reference group (tinidazole tablets, n=42) and combination group (tinidazole). Azole tablets + Gongyanping capsule, n=42), compare the effectiveness of the two groups. **Results:** There was no difference in immune function before medication, and there was no difference in adverse reactions between the two groups after medication, P>0.05; after medication, compared with the reference group, the combination group had higher IgA, IgG, IgM indicators; the combination group had higher effective rates (95.24%) was higher than the reference group (76.19%), x^2=4.7639, p=0.0290, P<0.05. **Conclusions:** Combination therapy for acute cervicitis can improve the efficacy, is safe and reliable, and is worthy of praise.

Keywords: Gongyanping capsules; Tinidazole tablets; Acute cervicitis; Clinical efficacy; Safety
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1. Introduction

The common clinical obstetrics and gynecology disease is acute cervicitis. The patient becomes ill due to inflammation after cervical infection with pathogens. With the help of B-ultrasound, the cervix is in the state of congestion and edema, and the vaginal mucosa is congested and edema, attached to purulent secretions, and secreted. The substance flows out through the cervical canal, increasing the risk of bleeding. According to epidemiology [1], the prevalence rate of this disease in gynecology is as high as 50%. The analysis of the pathogenic factors is not clear. It may be related to factors such as repeated vaginal infections, early sexual life and increased number of induced abortions. The symptoms of vulvar pain, purulent leucorrhea, dysuria, and bleeding during sexual intercourse will worsen and affect women's physical and mental health. Therefore, how to use drugs correctly as soon as possible has become an urgent point in the field of gynecology. Zheng Lin [2] confirmed that tinidazole tablets can improve the efficacy of treating this disease. It can exert anti-inflammatory mechanism, inhibit anaerobic infection, enhance antibacterial activity, and relieve discomfort, but the effect of simple medication is not good, and the side effects can also restore the disease. It brings troubles and affects the prognosis of patients. In view of this, this article selects 84 patients with acute cervicitis admitted to our hospital from January 2020 to October 2020 as the research object, analyzes the value of symptomatic medication for patients with acute cervicitis, and summarizes.

2. Materials and Methods

2.1 Baseline data

A retrospective study, sample collection in our hospital from January 2020 to October 2020 admitted 84 patients with acute cervicitis, combination group (42 cases): age 22-52 years old, mean (36.34±0.58) years old; course of disease 1-15d, Mean value (7.51±1.23)d; of which 24 were unmarried and 18 were married; types of infection: 11 cases of mycoplasma infection, 9 cases of chlamydia infection, 13 cases of gonococcal infection, 9 cases of mixed infection; reference group (42 cases): Age 24-55 years old, mean (36.56±0.61) years old; course of disease 2-17d, mean (7.64±1.38)d; 22 cases were unmarried, 20 cases were married. Type of infection: 12 cases of mycoplasma infection, 10 cases of chlamydia infection. There were 8 cases of gono-

coccal infection and 12 cases of mixed infection. P>0.05, comparable. The patient signed the "Informed Consent" and was approved by the ethics committee.

[Inclusion criteria] (1) Diagnosed by colposcopy [3]; (2) Normal menstruation, history of sexual life; (3) Showing vulvar pain, dysuria, and purulent leucorrhea; (4) The course of disease>1d, age>18 years old; (5) Complete data.

[Exclusion criteria] (1) Organ failure; (2) Vaginal bleeding caused by other unknown reasons; (3) Being pregnant or breast-feeding; (4) Medication contraindications; (5) History of mental illness; (6) Withdrawal from the study halfway.

2.2 Method

Reference group: patients take 1g tinidazole tablets (manufacturer: Hubei Hengan Pharmaceutical Co., Ltd., National Medicine Zhunzi H20063292, specification 0.5g*8 tablets), once a day, continuous medication for 1 month, adjusted according to the degree of disease recovery Dosage of medication.

Combination group: The dosage and method of tinidazole tablets are the same as those in the reference group, combined with a single oral administration of 2 Gongyanping capsules (manufacturer: Jiangxi Minji Pharmaceutical Co., Ltd., National Medicine Zhunzi Z20060038, specification 0.25g*12 capsules* 3 plates), 3 times/d, continuous medication for 1 month, and adjust the dosage according to the degree of disease recovery.

Both groups of treatment are 3 months.

2.3 Observation indicators

Immune function: Collect 2 groups of fasting venous blood 3 ml, centrifuge for testing, ELISA (enzyme-linked immunosorbent) method to detect IgA, IgG, IgM, the kit provided by Sichuan Aobo Company, strictly follow the instructions.

Clinical efficacy: markedly effective: symptoms subsided, gynecological examination cervix surface is smooth, covered with squamous epithelium, pathogenic bacteria results are negative; effective: symptoms are relieved, gynecological examination erosion area is reduced, most pathogenic bacteria results are negative, only one positive number; Ineffective: worsening of the condition [4].

Adverse reactions: record the number of cases of vomiting, diarrhea, dizziness and headache.

2.4 Statistical methods

The data were sorted by excel table, analyzed by SPSS22.0 statistical software, and the mean±standard deviation (±s) of measurement data was expressed by t test. Counting data composition ratio [n(%)] said, x2 test. Inspection level P=0.05.

3. Results

3.1 Immune function

There was no difference in immune function before medication, P>0.05; after medication, compared with the reference group, the IgA, IgG, IgM indexes of the combination group were higher, P<0.05, see Table 1.

3.2 Clinical efficacy

Compared with the reference group, the combination group has a higher effective rate, P<0.05, see Table 2.

3.3 Adverse reactions

There was no difference in the proportion of adverse reactions between the two groups, P>0.05, see Table 3.

Table 1. Comparison of immune function (±s, g/L)

Group		Combination group (n=42)	Reference group (n=42)	*t*	*p*
IgA	Before medication	2.42±0.62	2.45±0.29	0.2840	0.7771
	After medication	2.98±0.74*#	2.58±0.21*	3.3700	*P*<0.05
t	--	3.7592	2.3530	--	--
p	--	*P*<0.05	*P*<0.05	--	--
IgG	Before medication	9.62±0.83	9.61±0.84	0.0548	0.9564
	After medication	12.48±1.35*#	10.25±1.49*	7.1878	*P*<0.05
t	--	11.6958	2.4248	--	--
p	--	*P*<0.05	*P*<0.05	--	--
IgM	Before medication	0.91±0.12	0.92±0.14	0.3514	0.7261
	After medication	1.29±0.21*#	1.04±0.18*	5.8577	*P*<0.05
t	--	10.1819	3.4103	--	--
p	--	*P*<0.05	*P*<0.05	--	--

Note: Comparison within groups, *P<0.05; Comparison between groups, #P<0.05.

Table 2. Comparison of clinical efficacy [(n),%]

Group	Markedly effective	efficient	invalid	Efficient
Combination group (n=42)	25(59.52)	15(35.71)	2(4.76)	40(95.24%)
Reference group (n=42)	20(47.62)	12(28.57)	10(23.81)	32(76.19%)
x^2	--	--	--	4.7639
p	--	--	--	0.0290

Table 3. Comparison of adverse reactions [(n),%]

Group	Vomit	diarrhea	Dizziness and headache	Incidence
Combination group (n=42)	2(4.76)	0(0.00)	1(2.38)	3(7.14%)
Reference group (n=42)	1(2.38)	2(4.76)	1(2.38)	4(9.52%)
x^2	--	--	--	0.1558
p	--	--	--	0.6930

4. Discussion

Acute cervicitis is a common gynecological disease. The body is infected with different pathogens. Bacteria such as mold, Trichomonas vaginalis and Neisseria gonorrhoeae are common pathogens. The pathological feature is that the columnar epithelium in the cervical epidermis covers the original squamous epithelium, which is diseased. Features such as high rate and poor prognosis. The cause of the analysis is unknown. It may be related to the increase in the number of abortions, frequent sexual life, and repeated vaginitis. Symptoms such as purulent leucorrhea and dysuria after the illness are likely to occur if they are not treated in time. Chronic cervicitis and cervical cancer threaten the physical and mental health of patients, so early correct medication is paid attention to by gynecology.

It has been reported in the literature [5] that tinidazole + Gongyanping capsules can improve the curative effect of this disease. The analysis found that: (1) The former is a nitroimidazole derivative, which can inhibit the synthesis of anaerobic bacteria's DNA by oral administration. Inhibit the growth and reproduction of pathogenic microorganisms, promote the death of pathogenic microorganisms, and inhibit the synthesis of pathogen DNA, quickly reach the focus of the disease, and enhance the antibacterial effect. However, long-term simple drug use can easily cause side effects and affect the outcome of the disease, and its clinical application is limited.

(2) Chinese medicine shows that acute cervicitis belongs to the categories of "suppression" and "abdominal pain". The pathogenesis is caused by women's menstrual period, damp-heat and pathogenic qi deficiency, and normal physical weakness. Heat damages qi and yin and causes poor blood flow and heat damages body fluid. The color is yellow, the blood stasis is difficult to remove, which causes depression and heat, and the damp evil obstruction causes the patient to have abdominal distension and eventually blood stasis. Therefore, follow the treatment of removing blood stasis and promoting qi, clearing heat and dampness, astringent stop, expectorant and pain relief Principles can improve the effect of disease treatment.

Gongyanping Capsule is a common Chinese medicine preparation. The ingredients involved are liangmianzhen, angelica, diren, five-finger hair peach, and piercing stone. Among them, liangmianzhen has the effects of dispelling dampness and relieving pain, promoting qi and promoting blood circulation. Angelica has the functions of regulating menstruation and relieving pain and nourishing blood Invigorating blood, Diren has the effects of detoxification and swelling, removing blood stasis and removing dampness, piercing the stone has the effects of dispelling blood stasis and relieving pain, clearing heat and dampness, five-finger hair peach has the effects of promoting qi, replenishing dampness, replenishing qi and strengthening the spleen. It has the effect of removing blood stasis, relieving pain, and astringent stop band.

Modern pharmacology shows that Gongyanping

Capsule inhibits hemolytic streptococcus and staphylococcus, protects women's reproductive health, enhances the antibacterial effect, promotes skin cell differentiation and proliferation, improves the microcirculation mechanism, and promotes disease recovery. Has practical value.

This study shows (1) Compared with the reference group, the combination group has higher IgA, IgG, and IgM indicators, $P<0.05$, indicating that the two medications can complement each other, promote immune recovery, enhance the medication mechanism, and have a positive significance in achieving long-term efficacy (2) Compared with the reference group, the combination group has a higher effective rate, $P<0.05$, indicating that the two groups can take advantage of their respective advantages, enhance the efficacy of the medication, and promote the early recovery of the disease; (3) There is no difference in the proportion of adverse reactions between the two groups, $P>0.05$, which shows that this article is similar to Cai Yaqing [6] literature, so the two drugs can play a synergistic auxiliary effect to ensure the safety and rationality of the medication, and the effect is ideal.

In summary, Gongyanping Capsule + Tinidazole Tablets for patients with acute cervicitis can improve immune function, enhance the effect of medication, and ensure the safety of medication and the definite curative effect.

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Effect of Dahuoluo Capsule Combined with Acupotomy on Improving Upper Limb Electromyography in Patients with Cervical Spondylotic Radiculopathy

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Abstract: Objective: To investigate the effect of Dahuoluo capsule combined with Acupotomy on improving upper limb electromyography in patients with cervical spondylotic radiculopathy. **Methods**: A total of 60 patients with cervical spondylotic radiculopathy in our hospital from January 2019 to June 2020 were selected and divided into two groups according to different treatment methods: control group (n = 30 cases, treated with Acupotomy); the study group (n = 30 cases, treated with Dahuoluo capsule combined with Acupotomy), the changes of F-wave conduction mode of upper limb median nerve and ulnar nerve were compared before and after treatment. **Results:** There was no significant difference in F-wave conduction velocity of median nerve and ulnar nerve between the study group and the control group before treatment (P> 0.05). After treatment, the F-wave conduction velocity of EMG of anterior median nerve and ulnar nerve in the study group was significantly higher than that in the control group (P < 0.05). **Conclusions:** Dahuoluo capsule combined with acupotomy can effectively improve the conduction velocity of median nerve and ulnar nerve in the compressed area, relieve or eliminate the compression state, which can be promoted.

Keywords: Dahuoluo capsule; Needle knife; Cervical spondylotic radiculopathy; Median nerve; Ulnar nerve; Electromyogram

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1. Introduction

Cervical spondylotic radiculopathy often occurs in people who work at their desks for a long time. In recent years, with the increase of people's life pressure, the incidence of cervical spondylotic radiculopathy is further increased, showing a trend of younger onset. The symptoms of nerve root are related to the formation of osteophyte at the posterior margin of vertebral body, protrusion and prolapse of nucleus pulposus, hypertrophy of posterior longitudinal ligament, hyperplasia of posterior facet joint and nerve adhesion. If the above signs are not corrected in time, it will lead to neck and shoulder pain, upper limb numbness and other symptoms, which will seriously affect the daily life of patients. Acupotomy is a common treatment for this disease, which has a significant effect in releasing soft tissue adhesion, but it fails to achieve the expected clinical purpose. Dahuoluo capsule is composed of frankincense, angelica, Atractylodes macrocephala and red ginseng. It has the function of relaxing meridians and activating collaterals, and can be used in the treatment of cervical spondylosis. In this regard, this study, on the basis of acupotomy treatment, combined with Dahuoluo capsule treatment, discusses its curative effect on relieving the clinical symptoms of patients with cervical spondylotic radiculopathy [1].

2. Object and Method

2.1 Object information

A total of 60 patients with cervical spondylotic radiculopathy in our hospital from January 2019 to June 2020 were selected and divided into control group (n = 30, treated with Dahuoluo capsule) according to different treatment methods, including 18 males and 12 females. The mean age was (52.35 ± 10.27) years (range, 21-75

years). The course of disease ranged from 0.5 to 10 years, with an average of (3.92 ± 1.68) years. There were 19 males and 11 females in the study group (n = 30). The mean age was (52.36 ± 10.26) years (range, 20-74 years). The course of disease was 0.5-10 years, with an average of (3.75 ± 1.74) years. The data of gender distribution, age and course of disease in different groups were compared (P > 0.05), which suggested that statistical analysis could be carried out later. Inclusion criteria: The subjects met the diagnostic criteria of cervical spondylosis in the diagnostic criteria of TCM syndromes. Sufficient imaging data can be provided. They were 18-75 years old. Informed of the study and signed informed consent. Exclusion criteria: Subjects did not tolerate the drug used in this study. Cervical spine with osteoporosis, osteoarthrosis, tumor, fracture and dislocation. Those who do not tolerate acupuncture therapy. Severe neurosis was found. Patients with severe heart, liver, kidney, body and coagulation disorders. Those who failed to participate in the whole study [2].

2.2 Method

2.2.1 Control group

30 patients in the control group were treated with Acupotomy. Three sites were selected: C4-C7 posterior capsule, nape ligament and vertebral occipital muscle. The specific operation methods are as follows: guide the patient to prone position, pad a soft pillow under the chest to fully expose the neck and shoulder. Accurate positioning of the above three sites, and the application of iodophor routine disinfection, can carry out the needle knife release treatment. After wearing sterile gloves, the operator laid a sterile towel and applied 1% lidocaine for local anesthesia. After the anesthetic effect was achieved, the operation could be carried out according to the four step process of needle knife closed operation. When the needle knife is put in, in order to achieve the best loosening effect, the needle knife can be put in parallel along the muscle fiber, blood vessel and knife edge line. When releasing the joint capsule, the knife edge line is parallel to the longitudinal axis of the human body. Release the joint capsule first, release the muscle fascia, and control the puncture to the bone surface at an angle of 45 degrees. Then 2-3 scalpels were removed along the articular surface. After treatment, the band aid was applied. When the insertion of the vertebral occipital muscle and the nuchal ligament is released, the needle knife is 45° to the sagittal axis of the human body and 45° to the foot side. The knife edge line is parallel to the longitudinal axis of the human body and perpendicular to the occipital bone.

Once a week for 3 weeks.

2.2.2 Research Group

On the basis of the control group, 30 patients in the study group took Dahuoluo capsule (Jiangxi Yaodu Zhangshu Pharmaceutical Co., Ltd; Approval number: z19990044; 25g / capsule). Take 1.0g once, 3 times a day, warm water after meal. The efficacy was compared after 3 weeks.

2.3 Observation index

The changes of F-wave conduction velocity of median nerve and ulnar nerve were compared between the two groups. The above indexes were measured by electromyography (meb-7102k, provided by Japan photoelectric company) before treatment, and the F-wave conduction velocity of ulnar nerve wrist median nerve was calculated according to the formula.

2.4 Statistical analysis

With the help of PEMs 3.2 statistical software, t-test was used to compare the measurement data between groups, the counting data were compared χ 2 test, significance level α= 0.05.

3. Results

Changes of EMG F-wave conduction velocity of median nerve and ulnar nerve in upper limb

There was no significant difference in F-wave velocity of median nerve and ulnar nerve between the study group and the control group before treatment (P> 0.05). After treatment, the F-wave conduction velocity of EMG of anterior median nerve and ulnar nerve in the study group was significantly higher than that in the control group (P < 0.05).

Table 1. Changes of F-wave conduction velocity of upper limb median nerve and ulnar nerve before and after treatment in two groups (x ± s, M / s)

Group	Median nerve		Ulnar nerve	
	Before treatment	After treatment	Before treatment	After treatment
Study group (n = 30)	51.36±9.57	59.95±10.88	52.02±9.84	60.85±11.23
Control group (n = 30)	51.64±10.62	54.23±9.25	51.87±9.13	54.97±10.46
t	0.107	2.194	0.061	2.099
P	0.985	0.032	0.951	0.040

4. Discussion

Cervical spondylotic radiculopathy is a degenerative disease of cervical bone and its associated tissues. Imaging examination results show that the normal anatomical

structure of the vertebral body changes, thus compressing the cervical nerve root, resulting in a series of cervical nerve compression symptoms, such as abnormal sensation, radiation or pressure pain symptoms. If the corrective treatment is not timely, the patient's condition may develop to the level of quadriplegia, and slowly reduce the quality of life of patients. Therefore, early systematic treatment of patients with cervical spondylotic radiculopathy symptoms, has a positive and important clinical significance.

Electromyography (EMG) is often used to detect the level of neuromuscular electrical activity when judging whether there is root damage in cervical spondylosis. In this study, we can evaluate the degree of nerve root damage by detecting the F-wave conduction velocity or EMG level and quantifying the detection index. This study showed that there was no significant difference in F-wave conduction velocity of median nerve and ulnar nerve between the study group and the control group before treatment ($P> 0.05$). After treatment, the F-wave conduction velocity of EMG of anterior median nerve and ulnar nerve in the study group was significantly higher than that in the control group ($P< 0.05$). The reason is that Acupotomy can release the compressed nerve root and the effect of Dahuoluo Capsule on dredging meridians and collaterals. Firstly, the effect of acupotomy was analyzed. The Acupotomy treatment scheme used in this study combined the mesh theory and the essence of acupotomy medical basic theory. The following effects can be achieved by loosening the C4-C7 posterior joint capsule, the starting and ending points of nuchal ligament, and the starting and ending points of vertebral occipital muscle: (1) activating the human neuroendocrine immune system: after the release of nerve compression state, the following effects can be achieved. It can stimulate the physiological mechanism of the above system, strengthen the production of analgesic substances, and achieve the analgesic effect [3]. (2) It can relieve muscle spasm: the effect of acupotomy is similar to acupuncture, and the acupuncture effect can directly act on the acupuncture site to promote capillary circulation and improve local microcirculation. The smooth operation of blood can also provide sufficient oxygen supply for muscle spasm, and effectively improve the performance of tissue hypoxia and ischemia. At the same time, it can reduce the production of inflammatory substances, promote the absorption of inflammatory substances, and ultimately relieve muscle spasm. (3) It can restore the dynamic balance of the neck: after the needle knife operation to release the soft tissue, it can effectively solve the stimulation and compression level of the soft tissue on the blood vessels and nerves, and restore the normal physiological function of the neck. (4) It can promote the recovery of neck biomechanical state: after the needle knife is effectively released, it can effectively mobilize its own body biomechanical regulation mechanism, which is conducive to the rapid outcome of clinical symptoms [4].

However, clinical reports show that it is difficult to achieve satisfactory curative effect by using needle knife alone, and some patients are not admitted to hospital in strict accordance with the treatment process, which leads to the treatment effect difficult to meet the clinical requirements. Combined application of drug treatment can further improve the clinical curative effect. Dahuoluo capsule originated from experience prescription, written by Yao Jun, a medical scientist in Ming Dynasty. The composition of the prescription is borneol, clematis, Arisaema, Radix Aconiti kusnezoffii, Notopterygii, Gastrodia elata, Rhizoma Cyperi, Agaricus, Radix Aucklandiae, radix paeoniae rubra, clove, cinnamon, asarum, Rhizoma Drynariae, Huoxiang, Kangxiang, frankincense, Pueraria, myrrh, Radix Saposhnikoviae, radix rehmanniae, Radix Polygoni Multiflori, Radix angelicae sinensis, scorpion, salamander, Bombyx batryticae, Radix Atractylodis Macrocephalae, radix rehmanniae, earthworm and Radix Aconiti, which is composed of licorice and other herbs. Under the coordination of various drugs, it can achieve the effects of dispelling wind and relieving pain, removing dampness and eliminating phlegm, relaxing tendons and activating collaterals, relieving swelling and relieving pain, dispersing stagnant fire, dredging orifices, dredging meridians, relieving exterior wind and expelling wind, overcoming dampness and stopping spasm, sedation and analgesia, dispelling wind and relieving pain, calming liver wind, regulating Qi and relieving depression, activating Qi and relieving pain, activating Qi and activating blood, reinforcing Yuanqi, reinforcing Qi and nourishing blood, removing turbidity and opening coagulation, ventilating blood, and removing deep hidden evil. Modern pharmacological studies show that Dahuoluo capsule has the following functions: (1) it can reduce the secretion of endothelin-1 by regulating the expression of procalcitonin gene, so as to promote the expansion of cerebral vessels. (2) It has neuroprotective effect: it can expand the basilar cervical blood vessels, increase the cerebral blood flow, provide sufficient oxygen for the cerebral nerve, and relieve the cerebral blood supply deficiency caused by nerve root compression. (3) It has the effect of inhibiting platelet aggregation: by inhibiting platelet aggregation, it

indirectly inhibits the process of inflammatory reaction, so as to reduce the tension of fascia, ligament and muscle caused by inflammatory reaction, and reduce the adhesion of soft tissue. In this study, the study group combined with Dahuoluo capsule treatment, compared with the control group, the change of nerve root conduction velocity was more significant. It is further confirmed that Dahuoluo capsule combined with Acupotomy can significantly relieve the symptoms of nerve root compression and improve the level of nerve conduction velocity [5,6].

To sum up, Dahuoluo capsule combined with acupotomy can effectively improve the conduction velocity of median nerve and ulnar nerve in the compression part, relieve or eliminate the compression state in patients with cervical spondylotic radiculopathy, which can be promoted.

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