Clinical Observation on Effect of Ruangan Granule (软肝颗粒剂) in Treating Chronic Hepatitic Liver Fibrosis

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ABSTRACT

Objective: To observe the clinical effect of Ruangan granule (RGG) in treating liver fibrosis. Methods: One hundred and twenty patients of chronic viral hepatitis B were randomly divided into two groups, 60 patients in the treated group and 60 patients in the control group. They were treated with RGG or composite Biejia Ruangan tablet (复方鳖甲软肝片) respectively for three months. The changes of liver function, liver fibrosis indices, including fibronectin (FN), laminin (LN) and hyaluronic acid (HA), as well as liver morphology by B-ultrasonic examination were observed after treatment. A three-month follow-up study was also conducted. Results: In the treated group, the markedly effective rate was 50.0% and effective rate was 41.7%, while in the control group, the corresponding rates were 26.7% and 55.0% respectively. Comparison of the markedly effective rate between the two groups showed significant difference ($P<0.01$). The serum levels of FN, LN, HA as well as splenomegaly and portal vein widening in the treated group after treatment were significantly improved ($P<0.05$), as compared with those in the control group after treatment; significant difference was shown in comparison of serum FN, LN and HA.

Conclusion: RGG could improve effectively serum liver fibrosis indices and liver function in patients of chronic hepatitic fibrosis. It is helpful in alleviating and inhibiting the genesis and development of liver fibrosis so as to block the progression of liver cirrhosis.

KEY WORDS    Ruangan Granule, chronic hepatitic liver fibrosis

METHODS

Patients

One hundred and twenty patients (40 out-patients and 80 in-patients) with chronic hepatitis B, with their diagnosis conforming to the diagnostic standard of the “Program of Viral Hepatitis Prevention and Treatment” (1995, Beijing), were divided according to the random number table into two groups. The 60 patients in the treated group were 54 males and 6 females, aged 21–60 years, 41.8 ± 8.3 years on average, their course of disease was 0.5–10 years, 4.3 ± 2.6 years on average, the total score of disease (including the score of symptoms, signs and laboratory indices) in them was 5.17 ± 2.87 scores. Liver pathological examination performed in 9 of them showed G3S2 in 3 cases, G3S3 in 2, G3S2 in 3 and G2S1 in 1. The 60 patients in the control group were 45 males and 15 females, aged 20–61 years, 42.5 ± 11.8 years on average, their course of disease was 0.9–9 years, 3.8 ± 2.3 years on average and the total score was 5.71 ± 3.53 scores. No liver pathological examination was performed for them. The two groups were similar in age, sex, course and total score of disease with insignificant difference ($P>0.05$), and so they were comparable.

Treatment

The treated group was treated with RGG (product of the Hua~ong Pharmaceutical Factory, consisting of Turtle Shell, As...
tragalus, Salvia, Angelica, Prunella spike, etc. each gram of RGG containing 2.63 g of crude drug). It was given orally 20 g each time, 3 times per day. The control group was treated with composite Bieja Ruangan tablet (蓟甲软肝片, product of Chifeng Pharmaceutical Factory) 5 tablets each time, 3 times a day. The therapeutic course for both groups was 3 months.

Potenlinin Injection (强力宁注射液, 20 ml/ampoule, produced by Tianqing Pharmaceutical Factory, containing mono-amine glycyrrhizinate 40 mg. L-cysteine hydrochloride 32 mg and glycine 400 mg) 60 ml were given to 15 patients of the treated group and 10 patients of the control group by intravenous injection once a day.

**Items of Observation**

Changes of symptoms and signs, routine test of blood, urine and stool, electrocardiogram and blood urea nitrogen in patients were observed to see the general effect and side-effect of the treatment.

Blood was collected before and after treatment to test the liver function and liver fibrosis related indices. The Indices of liver function, including alanine transaminase (ALT), aspartate aminotransferase (AST), serum total bilirubin (TB), albumin (Alb), total protein (TP), total cholesterol (TC) and prothrombin activity (PTA) were determined by automatic biological analyzer (Olympas type AU640, Japan). The liver fibrosis related indices, including fibronectin (FN), laminin (LN) and hyaluronic acid (HA) were analyzed by ELISA with the reagent purchased from Fanlao Co. Ltd. of Biological Tech. The viral duplication indices (hepatitis B viral marks), including HBsAg, HBeAg, anti-HBs, anti-HBe, anti-HBc-IgG and IgM were detected by ELISA by automatic enzyme labeling analyzer type FTL-LAB (SORIN, Italy) with reagent purchased from Johnson Johnson Company, American, and HBV DNA was tested by spot-test with the reagent from Yuanli Reagents Co., Shanghai.

The morphological examination of liver was also conducted by B-ultrasonic detector. The morphology of liver and width of portal vein (PV) were measured by B-ultrasonic detector type PV 6000, Toshiba, Japan.

**Statistical Analysis**

Student t test and χ² test were adopted.

**RESULTS**

**Clinical Effect**

The clinical efficacy of treatment was evaluated at the end of the course by calculating the total score of disease, which included three aspects: the score of symptoms and signs, the score of laboratory indices and the score of liver morphology observed by B-ultrasonography.

The score of symptoms and signs included the scores got on hypochondriac mass, pain in liver area, fatigue and weakness, pale complexion, spider nevus and liver palm, dark colored tongue or tongue with petechia, deep and fine pulse, enlargement of liver or spleen with tenderness(2), one score for the presence of one symptom (sign) of mild degree, two scores for that of medium degree and three scores for that of severe degree, and for the hypochondriac mass, the score was doubled.

The score of laboratory indexes was got as follows: Zero for presence of any of ALT <40 IU/L, TB <17.5 μmol/L or no abnormality in HA, LN and FN; 1 score for any ALT between 40–60 IU/L, TB between 17.5–35 μmol/L or abnormality in any one of HA, LN and FN; 2 scores for any ALT between 60–80 IU/L, TB between 35.1–52.5 μmol/L or abnormalities in any two of HA, LN and FN; and 3 scores for any ALT >80 IU/L, TB >52.5 μmol/L or all the HA, LN and FN were abnormal.

The scoring of liver morphology was defined as 0 for normal liver and spleen; 1