

Clinical Observation on Therapy of JGWK Capsule to Gastric Precancerous Lesion

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Abstract Objective To observe the therapy of the jinguoweikang capsule to poisonous stasis of gastric precancerous lesion genera. **Methods** 107 cases with definite diagnosis were selected, and were divided into treatment and control groups randomly. In the treatment group, 57 patients take JGWK capsule orally, 4 capsules each time and three times per day; in the control group, 50 patients taking SJWT capsule orally, 4 capsules each time and twice a day. Three months was taken as a treatment course. **Results** The clinical effect in the treatment group was superior to that in control group, gastroscopically and pathologically improved, and there was significant difference between two groups. **Conclusion** JGWK capsule has an obvious curative effect in treating gastric precancerous lesion with safety.

Key words Gastric precancerous lesion; Jinguoweikang capsule; Poisonous stasis

Gastric cancer whose incidence and mortality ranked first is one of the most common malignant tumors, average annual mortality rate is 16/10 ten thousand people, high-incidence areas even come to 60/10 ten thousand people^[1,2]. Chronic atrophic gastritis (CAG) with moderate or severe intestinal metaplasia (IM) or dysplasia is called gastric precancerous lesion (PLGC). Reverse the PLGC development is one of the most effective methods for decreasing the gastric cancer incidence. There is still not ideal medicine to PLGC at present. The author use the JGWK capsule to treating PLGC and find it has good effect of detoxification and dissipation blood stasis, promoting circulation and removing mass. The results are as follows.

MATERIALS AND METHODS

Clinical data

All 107 cases from the Affiliated Hospital of Shanxi University of Traditional Chinese Medicine from Feb. 2000 to Feb. 2004 were randomly divided into two groups. The patients' ages in the treatment group ranged from 28 to 67 years olds with a mean age of 45.2 years old. Of all the 57 cases, 36 cases were males and 21 females; their disease courses ranged from 3 to 21 years with an average of 11.1 years; the atrophy of the gastric gland with moderate or severe incomplete colon metaplasia were 30 cases, the moderate dysplasia 19 cases, the severe dysplasia 2 cases, the moderate or

severe incomplete colon metaplasia with moderate dysplasia 6 cases. The control group includes 50 cases, of them, 27 cases were males and 23 cases females, their ages ranged from 30 to 65 years olds with a mean age of 46.8 years, and their disease courses ranged from 2 to 23 years with an average of 11.5 years; the atrophy of the gastric gland with moderate or severe incomplete colon metaplasia 29 cases, the moderate dysplasia 15 cases, the severe dysplasia 2 cases, the moderate or severe incomplete colon metaplasia with moderate dysplasia 4 cases. The degree of IM and ATP in two groups see table 2. The ages, sex, disease course and so on between the two groups had non-significance difference ($P > 0.05$).

Cases income criterion

Diagnostic standard was according to the "The Guiding Principle of Clinical Research on treatment Chronic Atrophy Gastritis of New Traditional Chinese Drug"^[3] drawn up by the medical department and "fiber gastroscopically and pathological diagnostic standard of the chronic atrophy gastritis (CAG) and integration of Traditional Chinese and Western medicine diagnosis, dialectical and treatment standard of the chronic gastritis formulated in 1982 Chongqing conference; The poisonous stasis standard conformed to 3 items of main syndrome: stomachache, fullness, noisy of stomach, scorching hot, and the minor syndromes: bitter taste in the mouth, eructation, anorexia, reddened tongue with yel-

low fur, dark-purplish proper of tongue, ecchymosis on the tongue, deep pulse; coordinated the treatment willingly. The pregnant and lactating women or those with the important internal organs (such as heart, brain, lung, liver, the kidney) diseases are eliminated.

Methods

Use the randomly grouping, contrast observation methods. In the treatment group, patients took JGWK capsule (made of barbed skullcap, trifoliolate orange, cinnabar and so on, made in the preparation center of Affiliated Hospital of Shanxi University of Traditional Chinese Medicine, each particle contains 2.5g crude drugs) orally, 4 capsules each time and three times per day. In the control groups, patients took SJWT capsule (made in Southern Pharmaceutical Factory) orally, 4 capsules each time and twice a day. Three months was taken as a treatment course, and the study needed two treatment courses. Any chronic gastritis's medicines wasn't taken during the treatment period.

Main outcome measures

(1)Improvement of clinical symptoms. According to "medical record reporting tables", detailed recorded each item such as stomachache, fullness, eructation, scorching hot, noisy of stomach, anorexia, tongue picture and pulse picture. Calculated as 0, 2, 4, 6 points respectively based on no symptom, mild symptom, moderate symptom, serious symptom by integrated method. Count the integral change after the treatment. (2)Gastroscope and pathological inspection. Observed the mucosal color, vascular perspective, petechia, erosion, etc. by the gastroscope inspection in half months before and after treatment and divided them into four levels as no, mild, moderate and serious according to the gland atrophy degree. (3)Pathological biopsy of gastric mucosa. Took lesion tissue biopsy,observed the inflammatory lesion, gland atrophy, IM or ATP lesions, and divided them into four levels as no, mild, moderate and serious according to lesion degree, and carried on statistics comparison before and after the treatment. (4) HP detection. Carry on HP detection before and after the treatment. (5)Carried on three routine tests and safety detection of heart, liver, kidney, recorded the side

effect during the treatment.

Statistical methods

The measurement material with the t -test, the counting material with χ^2 examines to nalysis, and the difference was considered as statistical significance when $P<0.05$.

The criteria of evaluation

Formulate the standard according to relevant references. Clinical recovery: the clinical major symptoms and signs disappeared, the gastroscope and biopsy confirmed gland atrophy, IM and ATP returned to normal or disappeared; marked effect: clinical symptoms and signs almost disappeared, the integral reduces 2/3 or above, the gastroscope and biopsy confirmed gland atrophy, IM and ATP returned to normal or reduced two degree; effective: The clinical major symptoms and signs obviously relieved, the integral reduced 1/3 or above, gastroscope reexamination showed lesion range of the mucous membrane reduces 1/2 or above, biopsy confirmed gland atrophy, IM and ATP relieved; ineffective: Cannot achieve effective standard or the worsening.

RESULTS

Comparison of the clinical efficacy

Total effective rate in treatment group was 91.23 %, while in control group was 74.00% (Table1). The treating effects in treatment group was superior to that in the control group, and difference was significance ($P<0.05$).

Comparison of gastroscope and pathological changes

30 glands atrophy cases and 27 recovery cases after treatment in treatment groups of mucosal atrophy and cure rate is 47.4%; 39 glands atrophy cases and 11 recovery cases after treatment in control groups and cure rate is 22% (Table 2). There was statistically significant difference between two groups in curative rates ($P<0.05$). 19 cases cured and cure rate is 52.8% in 36 IM treatment group with 6 moderate ATP; while, 6 cases cured and cure rate is 18.2% in 33control group with 4

Table 1 PLGC comparison of clinical therapeutic effects in groups

Groups	Cases	Clinical recovery	Marked effect	effective	Ineffective	Total effective rate
JGWK groups	57	28	11	13	5	91.23
SJWT groups	50	11	14	12	13	74.00

Notes: compare to control groups, $P < 0.05$

Table 2 Gastroscopy and histopathology comparison pre and post treatment

		Atrophy degree				IM				ATP			
		no	light	medium	heavy	no	light	medium	heavy	no	light	medium	heavy
		Treatment group	before treatment	0	18	27	12	0	0	17	19	0	0
	after treatment	27	18	9	3	19	14	3	0	17	8	2	0
Control group	before treatment	0	16	24	10	0	0	15	18	0	0	19	2
	after treatment	11	16	19	4	8	19	6	0	6	11	4	0

Table 3 The main symptoms integral comparison in groups (minute, $\bar{X} \pm s$)

Groups	Cases		Symptom score				
			Stomachache	Gastrectasis	Heartburn	Eructation	Epigastric upset
Treatment	57	pre	3160±1132	4117±1150	2187±1113	1123±0157	3152±1127
Groups		post	1158±0191*	2162±0174*	1148±0192* [△]	1148±0192*	1167±0172* [△]
Control	50	pre	3168±0199	4107±1167	3102±0186	1158±0185	3138±1101
Groups		post	2107±0187	2167±1132	1179±0178	0174±0159	2187±0196

Note: compare to pretreatment, * $P < 0.01$, [△] $P < 0.05$

moderate ATP. There were statistically significant differences between two groups in curative rates ($P < 0.05$). 17 cases cured and cure rate is 63.0% in 27 ATP treatment group with 6 moderate or serious IM; while, 5 cases cured and cure rate is 23.8% in 21 control group with 4 moderate or serious IM. There were significant differences between two groups in curative rates ($P < 0.01$).

Main clinical symptoms improvement

The treatment group has significant curative effects in improving the stomachache, the gastrectasis, the heartburn, eructation, noisy of stomach and so on, and the comparison has significant difference between the after and before the treatment; while, the treatment group in improving the stomachache, the heartburn, noisy of stomach aspects is superior to the control group (Table 3), and there was the significant difference be-

tween them; in improving the gastrectasis, eructation and so on is also superior to the control group, but there was non-significance difference between them.

Curative comparison of anti-HP

32 HP positive cases in treatment groups before the therapy, the HP clearance is 48.5% and the eradication rate is 44.7% after treatment; 24 HP positive cases in control groups before the therapy, the HP clearance is 31.5% and the eradication rate is 23.3% after treatment. The treatment group anti-HP clearance, eradication rate all surpasses the control group, and the difference has significance in statistics.

Side effect

Reexamined the blood picture, the urine, the stool and the heart, the liver, the kidney function and found no abnormal change after the treatment, three patients

appeared watery stool in one week after taking medicines and turned to normal three days later after adding norfloxacin.

Follow up

Carried on three months appointment and reexamination to 30 cases with marked effect and clinical recovery after treatment, 4 patients in 24 cases subsequent visits presented stomach discomfortable, fullness, the accidental stomachache, gastroscopy and pathological inspection showed chronic atrophy gastritis.

DISCUSSION

Gastric precancerous lesion (PLGC) is regarded as the pathomorphologic diagnosis of stomach mucosa, many are developed from CAG and belongs to gastric blockage, stomachache and so on categories in traditional Chinese medicine. We thought the poisonous stasis is an common excessive syndrome by using probability analysis method [4]. The HP infection has the hot and damp clinical characteristic, it stays in stomach and hard to eliminate, therefore it may be regard as pathogenic toxin. When pathogenic toxin HP incites in the stomach, damages gastric mucosa, causes the gland to atrophy, intestinal metaplasia or atypical hyperplasia. The pathogenesis is qi stagnation as first after pathogenic toxin infection, qi stagnation and toxic junctions, the poison and the blood congeals, the poisonous stasis, damaging gastric choroid, poisonous being the etiology. The qi stagnation and collateral stasis is the pathological mechanism after pathogenic toxin HP infection. Though there is one side of Qi and Yin deficiency and weakened body resistance in pathogenesis, the weakened body resistance is also under the premise that in the gas, the poison, the stasis and the interior pathogenic accumulation. The poisonous stasis and functional activities of Qi stasis is the basic reason of damages gastric choroid and hyperblastosis. So we can consider that the poisonous stasis is the key factor to PLGC. We use the JGWK capsule to interfere the key link of the pathogenesis and reverse PLGC and prevent it to develop into the stomach cancer. JGWK capsule is made of barbed skullcap, trifoliolate orange and cinnabar.

It has the efficacy of the detoxification and dissipation blood stasis and promoting qi circulation and removing mass. As the monarch drug, barbed skullcap is pungent and tiny bitter and cool. It also has the effect of heart-clearing and detoxifying, blood-activating and stasis-dissolving. It can eliminate the pathogenic toxin, dissipate coagulating stasis aiming at main pathogenesis. It may also govern the stomachache, "The Quanzhou Book on Chinese medicine" records "governs the stomach and the effect is good". As the minister drug, trifoliolate orange is pungent and bitter. It has the anticancer and promoting qi circulation and removing mass effect. It is good at governing distension and pain in the epigastrium together with toxic node and qi stagnation and should promote qi at first. "National Chinese herbal medicine Assemble" records that it has the function of "good for strengthening stomach and promoting digestion, promoting qi and analgesia". Regulating qi is superior to removing mass, and the latter can also anti-intestinal metaplasia. The adjuvant polygonaceae plant cinnabar seven is one herbal medicine governing the stomachache in Qinba mountainous area. It is bitter and cold. It has two efficacies: one is heat-clearing and detoxifying; the second is promoting blood circulation and cooling blood, dispersing blood stasis and analgesia. The former can also strengthen the detoxication of monarch drug, while the latter can help the monarch drug to dissipate coagulating of gastric collateral and to strengthen the ending stomachache effect of this prescription. Combined this three medicines and it can play the role of detoxification and dissipation blood stasis and promoting qi circulation and removing mass. It also can eliminate the stagnant symptom because of detention of toxin and recover the stomach government and descending by aiming at the poisonous stasis, gastric qi depression, treatment of toxin and stasis, promoting qi circulation and removing mass.

The present research observed the JGWK capsule reversal gastric precancerous lesion (PLGC). The results showed that total effect rate is 91.23%. The clinical curative rate is 47.4% to gastric mucosal atrophy, 52.8% to IM, 63.0% to ATP. There are significant difference between the treatment groups and the control groups. The results demonstrated JGWK capsule had remarked

curative effect in treating gastric precancerous lesion with no obvious side effect, which showed JGWK capsule is the ideal Chinese medicine preparation of therapy PLGC.

This preparation action mechanism may be the multi-way reversal gastric precancerous lesion (PLGC). The present research showed: ①The experimental study indicated that JGWK capsule may inhibit the big mouse protein expression of gastric mucosa p53, c-myc, H-ras, the EGFR gene, thus it reverses or prevents the stomach cancer's occurrence^[5, 6]; ②In the prescription, both barbed skullcap and trifoliolate orange have the anti-tumoral effect. It is reported that barbed skullcap has the strong anti-mutation function as one of anti-cancer's mechanisms^[7]; ③Regulating immune. Modern pharmacological research showed that barbed skullcap and cinnabar seven can regulate immune. It may strengthen the activity ability of macrophage in vivo thus enhance the immune surveillance ability and prevent the stomach cancer to occur; ④Anti-HP function, it is believed that chronic gastritis was highly correlated with HP since Warren and Mashall separated HP in the gastric membrane. The 50%~90% active gastritis may find HP in the gastric mucosa^[8]. Simultaneously the HP infection in the stomach may be a danger element of gastric cancer occurrence. Some literature reports indicated that the HP antibody detection rate is 69%~94% in stomach cancer patients. Gastric malignant lymphoma is also related to HP. The clinical research indicated that JGWK capsule has certain scavenging action to HP.

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