

Bǔ Zhōng Yì Qì Tāng

(Tonify the Middle and Augment the Qi Decoction)

補中益氣湯

补中益气汤

Pinyin Name: *Bu Zhong Yi Qi Tang*

Literal Name: Tonify the Middle and Augment the Qi Decoction

Alternate Names: *Pu Chung I Chi Tang (Wan)*, *Bu Zhong Yi Chi Tang (Wan)*, Interior-Nourishing and Qi-Increasing Decoction (Pill), Middle-Reinforcing and Qi-Benefiting Decoction, Ginseng and Astragalus Combination

Original Source: *Pi Wei Lun* (Discussion of the Spleen and Stomach) by Li Gao in 1249

COMPOSITION

<i>Huang Qi</i> (Radix Astragali)	1.5-3g [15-30g]
<i>Ren Shen</i> (Radix et Rhizoma Ginseng)	0.9g [9g]
<i>Bai Zhu</i> (Rhizoma Atractylodis Macrocephalae)	0.9g [9g]
<i>Zhi Gan Cao</i> (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle)	1.5g [15g]
<i>Dang Gui</i> (Radix Angelicae Sinensis), <i>bei</i> (stone-baked) with liquor	0.6g [6g]
<i>Chen Pi</i> (Pericarpium Citri Reticulatae)	0.6-0.9g [6-9g]
<i>Chai Hu</i> (Radix Bupleuri)	0.6-0.9g [6-9g]
<i>Sheng Ma</i> (Rhizoma Cimicifugae)	0.6-0.9g [6-9g]

DOSAGE / PREPARATION / ADMINISTRATION

Coarsely grind the ingredients into powder and cook the powder in 2 large bowls of water and reduce it to 1 large bowl. Take the warm, strained decoction between meals. Today, this formula may be prepared as a decoction with the doses suggested in brackets. It may also be administered as pills, by taking 10-15g of pills two to three times a day with warm, boiled water or ginger soup.

CHINESE THERAPEUTIC ACTIONS

1. Tonifies the middle *jiao* and benefits qi
2. Causes the yang qi to ascend and lifts prolapsed organs

CLINICAL MANIFESTATIONS

1. Spleen and Stomach qi deficiencies: poor appetite, spontaneous sweating in animals that sweat, thirst, exercise intolerance, lethargy, general weakness, fatigue, weakness of the extremities, loose stools, a pale tongue, and a deep, weak pulse.
2. Qi deficiency with prolapse of organs: prolapse of the rectum or uterus, chronic diarrhea or dysentery, and conditions characterized by the inability of yang qi to ascend.

VETERINARY CLINICAL APPLICATIONS

Chronic gastrointestinal, pulmonary, immune and other disorders: gastritis, inflammatory bowel disease, weight loss and cachexia, chronic diarrhea, vomiting, exocrine pancreatic insufficiency (EPI), chronic renal failure, chronic glomerulonephritis, endocrine disease, rectal prolapse, vaginal or uterine prolapse, fever of unknown

origin, leukopenia, anemia, weak immunity, frequent infections, urinary dribbling and incontinence, fecal incontinence, megaesophagus, constipation, megacolon, myasthenia gravis, degenerative myelopathy, progressive retinal atrophy (PRA), corneal dystrophy, non-healing corneal ulcers, cataracts, immune-mediated hemolytic anemia (IHA), asthma, chronic bronchitis, supportive care for severe illness, post-partum weakness, and generalized deficiency in cancer patients receiving chemotherapy or radiation therapy.

EXPLANATION

The Spleen and Stomach, which are responsible for the transformation and transportation of food, are the source of qi and blood production. When these two organs become deficient and cannot carry out their normal functions, there will be poor appetite, exercise intolerance, lethargy, general weakness, fatigue, weakness of the extremities, and a pale tongue. Because of qi deficiency, the clear yang cannot ascend, leading to loose stools, diarrhea, and dysentery.

In severe cases of Spleen and Stomach deficiencies, the yang qi may be unable to hold the organs in their normal position, leading to prolapse of such internal organs as the stomach, uterus, and rectum. Furthermore, as yang qi, unable to ascend, sinks into yin, it causes spontaneous sweating, and a weak, deep pulse. Thirst is the result of qi deficiency, which is unable to transport fluids to the upper parts of the body.

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Bu Zhong Yi Qi Tang (Tonify the Middle and Augment the Qi Decoction) uses *Huang Qi* (Radix Astragali) as the chief herb because it tonifies *zhong* (central) *qi* and causes the yang *qi* to ascend. It also strengthens *wei* (defensive) *qi* and protects the exterior. *Ren Shen* (Radix et Rhizoma Ginseng), *Bai Zhu* (Rhizoma Atractylodis Macrocephalae), and *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) strengthen the Spleen, benefit *qi*, and tonify the middle *jiao*. *Dang Gui* (Radix Angelicae Sinensis) tonifies the blood and enhances the production of *qi*. *Chen Pi* (Pericarpium Citri Reticulatae) regulates *qi* and harmonizes the Stomach. It also prevents the tonic herbs from creating stagnation in the middle *jiao*. *Chai Hu* (Radix Bupleuri) and *Sheng Ma* (Rhizoma Cimicifugae) cause yang *qi* to ascend and lift prolapsed organs.

VETERINARY MODIFICATIONS

- For chronic diarrhea, add *Shan Yao* (Rhizoma Dioscoreae), *Bai Bian Dou* (Semen Lablab Album), *Fu Ling* (Poria), and *Bu Gu Zhi* (Fructus Psoraleae).
- For chronic giardia infection, add *Qing Hao* (Herba Artemisiae Annuae) and *Da Suan* (Bulbus Alli Sativi).
- For diarrhea with cold and Spleen yang deficiency, add *Fu Zi* (Radix Aconiti Lateralis Praeparata) and *Pao Jiang* (Rhizoma Zingiberis Praeparatum); or *Li Zhong Wan* (Regulate the Middle Pill).
- For chronic prolapse of the rectum or uterus, add *Chi Shi Zhi* (Haloysitum Rubrum).
- With accompanying Liver *qi* stagnation, add *Xiao Yao San* (Rambling Powder).

CAUTIONS / CONTRAINDICATIONS

- *Bu Zhong Yi Qi Tang* is contraindicated in animals with significant yin deficiency or interior heat.
- As a general rule, the dose of this formula should be small. This formula consists of sweet and warm tonic herbs, which tend to be heavy and immobile in nature. Thus, a large dose of this formula may actually defeat the purpose of causing yang *qi* to ascend. For the individual ingredients, it is important keep the dose of *Huang Qi* (Radix Astragali) high to tonify *qi*, and the doses of *Chai Hu* (Radix Bupleuri) and *Sheng Ma* (Rhizoma Cimicifugae) should be just sufficient to raise yang *qi*.

PHARMACOLOGICAL EFFECTS

1. **Gastrointestinal:** According to laboratory experiments in rabbits, administration of *Bu Zhong Yi Qi Tang* was associated with a regulatory effect on the intestines. Depending on the condition of the subject, it will either increase or decrease intestinal peristalsis.¹
2. **Influence on gastric acid secretion:** Administration of *Bu Zhong Yi Qi Tang* has a dose-dependent effect on the secretion of gastric acid. A small dose of the herb has little or no benefit on the secretion of gastric acid, while a large dose will significantly increase both gastric acid production and release.²
3. **Adaptogenic:** Administration of *Bu Zhong Yi Qi Tang* has been shown to increase the ability of animals to adapt to physical stress. In one experiment, administration of herbs for seven days increased the ability of mice to tread water longer when threatened with drowning. It was also noted that the subjects responded better to decoction than to pills.³

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Diagnosis	Clinical Signs	Treatment	Herbs
Spleen and Stomach <i>qi</i> deficiencies with organ prolapse	<ul style="list-style-type: none"> • Poor appetite, fatigue, exercise intolerance, lethargy, general weakness, weakness of the extremities: Spleen and Stomach <i>qi</i> deficiencies • Loose stools, diarrhea, and dysentery: <i>qi</i> deficiency with failure of clear yang <i>qi</i> to ascend • Prolapse of internal organs, such as the stomach, uterus, and rectum: yang <i>qi</i> deficiency unable to lift internal organs • A pale tongue and a deep, weak pulse: Spleen and Stomach <i>qi</i> deficiencies 	<ul style="list-style-type: none"> • Tonifies the middle <i>jiao</i> and benefits <i>qi</i> • Causes yang <i>qi</i> to ascend and lifts prolapsed organs 	<ul style="list-style-type: none"> • <i>Huang Qi</i> (Radix Astragali) tonifies <i>zhong</i> (central) <i>qi</i>, causes yang <i>qi</i> to ascend, and strengthens <i>wei</i> (defensive) <i>qi</i>. • <i>Ren Shen</i> (Radix et Rhizoma Ginseng), <i>Bai Zhu</i> (Rhizoma Atractylodis Macrocephalae), and <i>Zhi Gan Cao</i> (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) strengthen the Spleen, benefit <i>qi</i>, and tonify the middle <i>jiao</i>. • <i>Dang Gui</i> (Radix Angelicae Sinensis) tonifies the blood. • <i>Chen Pi</i> (Pericarpium Citri Reticulatae) regulates <i>qi</i> and harmonizes the Stomach. • <i>Chai Hu</i> (Radix Bupleuri) and <i>Sheng Ma</i> (Rhizoma Cimicifugae) cause yang <i>qi</i> to ascend and lift prolapsed organs.

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4. **Antiaging:** Administration of *Bu Zhong Yi Qi Tang* in mice was associated with a dose-dependent effect to improve endurance, learning, memory, neuromuscular coordination, and changes in the levels of monoamines (dopamine and noradrenaline) in the brain.⁴
5. **Immunostimulant:** Administration of *Bu Zhong Yi Qi Tang* has been associated with an immune-enhancing effect. According to one study, use of the formula was linked with increased T-lymphocyte count, elevated levels of IFN and IL-2, and increased NK cells and macrophage activity.⁵ According to another study, *Bu Zhong Yi Qi Tang* enhances interleukin-18-induced cell-mediated immunity and may enhance host defense mechanisms against pathogens.⁶
6. **Antiallergic:** Administration of *Bu Zhong Yi Qi Tang* was associated with good results in treating allergies by suppressing IgE antibody production and inhibiting histamine release in type I allergic reactions in mice immunized with ovalbumin.⁷ According to another study, the antiallergic effect was attributed mainly to inhibition of Th2 cell responses.⁸
7. **Anticancer:** In one study, use of *Bu Zhong Yi Qi Tang* was associated with a dose-dependent effect to inhibit the proliferation of human hepatoma cell lines (Hep3B, HepG2, and HA22T), but not normal human hepatocytes (Chang liver, CCL-13). The mechanism of this anticancer effect was attributed to the formula's ability to suppress the proliferation of hepatoma cells by inducing apoptosis via G0/G1 arrest.⁹ Another study reported a marked prophylactic antitumor effect by enhancing the natural killer cell activity.¹⁰
8. **Radioprotective:** One study reported marked protective effects using *Bu Zhong Yi Qi Tang* in mice irradiated with high and low doses of gamma-rays. *Bu Zhong Yi Qi Tang* protected the jejunal crypts ($p < 0.0001$), increased the formation of the endogenous spleen colony ($p < 0.05$), and reduced the frequency of radiation-induced apoptosis ($p < 0.05$). The study also noted that while the individual ingredients also have radioprotective effects, the formula as a whole is much more effective. The study concluded that *Bu Zhong Yi Qi Tang* is a useful radioprotector, especially because it is a relatively non-toxic natural product.¹¹
9. **Antibiotic:** Administration of *Bu Zhong Yi Qi Tang* was associated with marked effects to treat gastroduodenal diseases associated with *Helicobacter pylori* (*H. pylori*) infection. *Bu Zhong Yi Qi Tang* was found to be effective against *H. pylori* both *in vitro* and *in vivo*, and inhibited the growth of antibiotic-resistant strains of *H. pylori* as well as antibiotic-sensitive strains. In addition, concurrent use of *Bu Zhong Yi Qi Tang* and antibiotics completely eradicated the bacteria in mice. The antibiotic effect of *Bu Zhong Yi Qi Tang* was attributed partly to the induction of interferon.¹²
10. **Antiviral:** Administration of *Bu Zhong Yi Qi Tang* was associated with antiviral effects to treat mice infected with influenza virus. The mechanism of this antiviral effect was attributed to the enhancement of host immune responses, as the herbs do not have any inhibitory effect on the growth of influenza virus *in vitro*.¹³
11. **Effect on bone loss:** One study used *Bu Zhong Yi Qi Tang* and evaluated its effect on bone mass density in ovariectomized female rats at age 35 weeks. The subjects were given the formula by gastric tube for 8 weeks. The study reported that treatments using *Bu Zhong Yi Qi Tang* suppressed the ovariectomy-induced reduction of the bone mineral density in the whole and metaphysis of tibia. Furthermore, the study noted that there was a slight increase in serum levels of estradiol and progesterone maintaining bone mineral density values similar to that in the estradiol-treated ovariectomized rats, as well as the intact control rats. Based on this finding, the study suggested that *Bu Zhong Yi Qi Tang* prevented bone loss in ovariectomized rats because it elevated the serum levels of ovarian hormones slightly.¹⁴
12. **Antidepressive and antinociceptive:** Administration of *Bu Zhong Yi Qi Tang*, *Yi Gan San* (Restrain the Liver Powder), or *Chai Hu Jia Long Gu Mu Li Tang* (Bupleurum plus Dragon Bone and Oyster Shell Decoction) for 14 consecutive days showed both antidepressive and antinociceptive properties in mice.¹⁵

HUMAN CLINICAL STUDIES AND RESEARCH

1. **Stomach prolapse:** In one study, 40 patients with stomach prolapse characterized by Spleen and Stomach deficiencies were treated with modified *Bu Zhong Yi Qi Tang* with complete recovery in 21 patients, marked improvement in 16 patients, and no benefit in 3 patients. The herbal treatment contained *Bu Zhong Yi Qi Tang* with modifications as needed. With Liver and qi stagnation, *Dang Shen* (Radix Codonopsis) was removed and *Fo Shou* (Fructus Citri Sarcodactylis), *Xiang Fu* (Rhizoma Cyperi), and *Zi Su Geng* (Caulis Perillae) were added. With food stagnation, *Dang Gui* (Radix Angelicae Sinensis) was removed, and charred *Shan Zha* (Fructus Crataegi), charred *Shen Qu* (Massa Fermentata), charred *Mai Ya* (Fructus Hordei Germinatus), *Ji Nei Jin* (Endothelium Corneum Gigeriae Galli), and dry-fried *Lai Fu Zi* (Semen Raphani) were added. With Stomach heat, *Dang Shen* (Radix Codonopsis) was removed, and dry-fried *Huang Lian* (Rhizoma Coptidis), *Pu Gong Ying* (Herba Taraxaci), and *Da Huang* (Radix et Rhizoma Rhei) were added. For Stomach cold, *Dang Gui*

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(Radix Angelicae Sinensis) was removed, and *Gan Jiang* (Rhizoma Zingiberis) and *Rou Gui* (Cortex Cinnamomi) were added. For Stomach yin deficiency, *Chai Hu* (Radix Bupleuri) and *Bai Zhu* (Rhizoma Atractylodis Macrocephalae) were removed, and *Sha Shen* (Radix Glehniae seu Adenophorae) and *Mai Dong* (Radix Ophiopogonis) were added. With blood stagnation, *Dang Shen* (Radix Codonopsis) and *Bai Zhu* (Rhizoma Atractylodis Macrocephalae) were removed, and *Tao Ren* (Semen Persicae), *Hong Hua* (Flos Carthami), and *Dan Shen* (Radix et Rhizoma Salviae Miltiorrhizae) were added.¹⁶ In another study, modified *Bu Zhong Yi Qi Tang* was used to treat patients with stomach prolapse with good success. Out of 40 patients, the study reported complete recovery in 30 patients, improvement in 8 patients, and no benefit in 2 patients. The overall effectiveness rate was 95%.¹⁷

- Rectal prolapse:** Use of modified *Bu Zhong Yi Qi Tang* was successful in treating rectal prolapse in 68 patients with 3 months to 15 years history of illness. The herbal formula contained *Huang Qi* (Radix Astragali) 30g, *Ren Shen* (Radix et Rhizoma Ginseng) 20g, *Bai Zhu* (Rhizoma Atractylodis Macrocephalae) 5g, *Sheng Ma* (Rhizoma Cimicifugae) 5g, and *Chai Hu* (Radix Bupleuri) 5g. Modifications were made as follows: for frequent bowel movements with mucus and blood, add *Huang Lian* (Rhizoma Coptidis) 10g, *Chi Shi Zhi* (Halloysitum Rubrum) 10g, *Ying Su Ke* (Pericarpium Papaveris) 10g, and *Jin Ying Zi* (Fructus Rosae Laevigatae) 10g; for stubborn cough, add *Wu Wei Zi* (Fructus Schisandrae Chinensis) 15g, *Wu Bei Zi* (Galla Chinensis) 10g, and *Sang Bai Pi* (Cortex Mori) 10g; for constipation, add *Huo Ma Ren* (Fructus Cannabis) 15g and *Yu Li Ren* (Semen Pruni) 10g; for chronic illness with dry mouth and deficiency of body fluids, add *Shu Di Huang* (Radix Rehmanniae Praeparata) 15g, *Sha Shen* (Radix Glehniae seu Adenophorae) 15g, *Tian Dong* (Radix Asparagi) 15g, and *Yu Zhu* (Rhizoma Polygonati Odorati) 15g; and for profuse bleeding in the stools, add *Huai Hua* (Flos Sophorae) 10g, *Di Yu* (Radix Sanguisorbae) 15g, and *Ce Bai Ye* (Cacumen Platycladi) 15g.¹⁸ Another study reported 94% effectiveness using modified *Bu Zhong Yi Qi Tang* to treat rectal prolapse. Modifications included the addition of *Wu Mei* (Fructus Mume), *Wu Bei Zi* (Galla Chinensis), and others as needed. Of 56 patients, the study reported significant improvement in 29 patients, moderate improvement in 24 patients, and no benefit in 3 patients.¹⁹
- Uterine prolapse:** One study reported good results using modified *Bu Zhong Yi Qi Tang* to treat 14 patients with prolapse of uterus. The herbal treatment contained *Bu Zhong Yi Qi Tang* as the base formula, with the addition of large doses of *Huang Qi* (Radix Astragali) and *Dang Shen*

(Radix Codonopsis) for qi deficiency; *Xu Duan* (Radix Dipsaci) and *Du Zhong* (Cortex Eucommiae) for low back pain and frequent urination; and a large dose of *Zhi Qiao* (Fructus Aurantii) for those who did not respond well. After 9-18 packs of herbs, the study reported recovery in all 14 patients.²⁰

- Gastritis:** Gastritis due to regurgitation of bile acid in 89 patients was treated with complete recovery in 19 patients, marked improvement in 32 patients, moderate improvement in 30 patients, and no benefit in 8 patients. The overall effectiveness was 90%. In addition to *Bu Zhong Yi Qi Tang* as the base formula, modifications included addition of *Zuo Jin Wan* (Left Metal Pill) for acid reflux; *Ban Xia* (Rhizoma Pinelliae) for belching; *Fu Ling* (Poria) and *Shan Yao* (Rhizoma Dioscoreae) for loose stools; *Da Huang* (Radix et Rhizoma Rhei) for constipation; and *Bai Shao* (Radix Paeoniae Alba) for stomach pain.²¹
- Nausea and vomiting:** In one report, 26 out of 30 patients with nausea and vomiting were treated with good results using modified *Bu Zhong Yi Qi Tang*.²²
- Constipation:** Modified *Bu Zhong Yi Qi Tang* successfully treated constipation in geriatric patients with qi deficiency, postpartum women with qi and blood deficiency, and pregnant women.²³
- Diarrhea:** One study reported good results using *Bu Zhong Yi Qi Tang* to treat geriatric patients with diarrhea characterized by Spleen deficiency. Out of the 33 patients, 16 were male and 17 were female, between 51-67 years of age, with 6 months to 15 years of illness. Patients were instructed to take herbs continuously for 1-1.5 months. The study reported complete recovery in 30 of 33 patients.²⁴
- Fever:** Use of *Bu Zhong Yi Qi Tang* was effective in reducing fever secondary to chronic illness or postpartum weakness with qi and blood deficiencies. Of 20 patients treated, most reported a reduction of body temperature within 5 doses.²⁵ Another study on fever in 30 post-surgical patients reported 93.3% effectiveness using modified *Bu Zhong Yi Qi Tang* to reduce body temperature.²⁶
- Leukopenia:** One study reported good results using modified *Bu Zhong Yi Qi Tang* in 80 patients (32 male, 48 female) with low white blood cell count due to various causes. In addition to the base formula, modifications included *Gu Ya* (Fructus Setariae Germinatus) and *Mai Ya* (Fructus Hordei Germinatus) for poor appetite; *Mai Dong* (Radix Ophiopogonis) and *Wu Wei Zi* (Fructus Schisandrae Chinensis) for palpitations; and *Cang Zhu* (Rhizoma Atractylodis) for damp. The herbs were cooked in water, and the decoction was taken in two equally-divided doses daily. Of 80 patients, the study reported a marked effect in 70 patients (> 2.0 x 10⁹/L increase of WBC in 2 weeks); moderate improvement in 4 patients (1.0-1.9 x 10⁹/L

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increase of WBC in 2 weeks), and no benefit in 6 patients (<0.9 x 10⁹/L increase of WBC in 2 weeks).²⁷

10. **Compromised immunity in elderly persons:** Administration of *Bu Zhong Yi Qi Tang* was effective in improving immunological capacity in a group of elderly patients. Clinical improvements included significantly enhanced natural killer (NK) activity and serum IFN-gamma level. The treatment protocol was to administer 7.5g of the formula daily for at least 120 days.²⁸
11. **Common cold:** In one report, 50 geriatric patients with constitutional deficiencies and common cold were treated successfully with modified *Bu Zhong Yi Qi Tang*. The modifications were as follows: *Jing Jie* (Herba Schizonepetae) was added for aversion to cold; *Fang Feng* (Radix Saposhnikoviae) and *Qiang Huo* (Rhizoma et Radix Notopterygii) for body ache; *Bai Zhi* (Radix Angelicae Dahuricae) was added for headache; *Bo He* (Herba Menthae) for dizziness; *Ju Hua* (Flos Chrysanthemi) for blurred vision; and *Yu Ping Feng San* (Jade Windscreen Powder) after the resolution of exterior symptoms. The average length of treatment was 37.5 days. Out of 50 patients, the study reported complete recovery in 48 patients (complete resolution of all symptoms without recurrence for 1 year).²⁹
12. **Hypertension:** One study used *Bu Zhong Yi Qi Tang* to treat hypertension characterized by qi deficiency. The background of the 15 patients were as follows: 9 males and 6 females; between 45-49 years of age, with 3-10 years history of illness. After continuous herbal treatment for 1-3 months, the study reported stabilization of blood pressure and relief of symptoms in 13 patients, and no benefit in 2 patients.³⁰
13. **Dysuria:** Modified *Bu Zhong Yi Qi Tang* was used with good results in treating 27 patients with postpartum dysuria. The modification included the addition of *Dong Kui Zi* (Semen Malvae), *Fu Ling* (Poria), and *Che Qian Zi* (Semen Plantaginis). The treatment duration was 1-3 days.³¹
14. **Frequent urination:** In one report, pregnant women with frequent urination were treated with great success using *Bu Zhong Yi Qi Tang* with the addition of *Xu Duan* (Radix Dipsaci), dry-fried *Bai Shao* (Radix Paeoniae Alba), *Di Huang* (Radix Rehmanniae), *Huang Qin* (Radix Scutellariae), and *Shan Yao* (Rhizoma Dioscoreae). Pregnancy continued smoothly with no complications or side effects.³²
15. **Incontinence:** Modified *Bu Zhong Yi Qi Tang* was used with good results in treating 57 patients with incontinence due to postpartum or post-surgical procedures. Modifications included the addition of a large dose of *Huang Qi* (Radix Astragali), as well as the addition of *Yi Zhi* (Fructus Alpiniae Oxyphyllae), *Wu Wei Zi* (Fructus Schisandrae Chinensis), *Fu Pen Zi* (Fructus Rubi), *Sang Piao Xiao* (Ootheca Mantidis), and calcined *Long Gu* (Os Draconis). Out of 57 patients, the study reported recovery in 45 patients and improvement in 12 patients.³³
16. **Seizures and epilepsy:** In one report, 54 patients with seizures were treated with good results using concurrent herb and drug therapy. The treatment protocol was to administer modified *Bu Zhong Yi Qi Tang* daily, for a duration ranging from 6 to 112 packs of herbal decoctions. The drugs were discontinued or reduced in dose only when the patients were stabilized. During the follow-up interviews, 35 patients had no recurrence within 1 year, 11 patients had no recurrence within 2 years, and 16 had reduced number of seizures. There was no benefit in 2 patients.³⁴
17. **Myasthenia gravis:** One hundred patients with myasthenia gravis were treated with an 86% effective rate using *Bu Zhong Yi Qi Tang* combined with general Kidney tonics.³⁵
18. **Male infertility:** Use of *Bu Zhong Yi Qi Tang* was 51.1% effective in improving sperm count and motility in a group of 45 men.³⁶ In another study involving 55 men, the formula was 67.3% effective in improving the sperm count, and 74.5% effective in improving the sperm motility.³⁷ Furthermore, use of this formula showed improved semen quality in 22 idiopathic infertile patients.³⁸ Lastly, one study reported favorable results (higher sperm motility) using *Bu Zhong Yi Qi Tang* to treat 14 patients with unexplained male infertility.³⁹
19. **Allergic rhinitis:** *Bu Zhong Yi Qi Tang* can be combined with *Yu Ping Feng San* (Jade Windscreen Powder) or *Xin Yi San* (Magnolia Flower Powder) to effectively treat allergic rhinitis within 2 months.⁴⁰
20. **Cataract:** Use of modified *Bu Zhong Yi Qi Tang* to treat 18 geriatric patients with cataracts was associated with 90.6% effectiveness. The base formula contained *Bu Zhong Yi Qi Tang* plus *Gou Qi Zi* (Fructus Lycii) and *Shu Di Huang* (Radix Rehmanniae Praeparata). The treatment protocol was to administer the herbs in decoction daily, for 6 days per course of treatment, followed by 1 day of rest, for 1 month.⁴¹
21. **Chronic hepatitis:** In a clinical study, modified *Bu Zhong Yi Qi Tang* was used to treat patients with chronic hepatitis characterized by Spleen qi deficiency or accumulation of dampness affecting the Spleen. The modification included the addition of *Yin Chen* (Herba Artemisiae Scopariae), *Cang Zhu* (Rhizoma Atractylodis), *Zhi Zi* (Fructus Gardeniae), *Zhu Ling* (Polyporus), *Fu Ling* (Poria), *Ze Xie* (Rhizoma Alismatis), *Huang Lian* (Rhizoma Coptidis), and *Hua Shi* (Talcum). The study reported significant results in 80 patients and moderate results in 2 patients.⁴²
22. **Hepatoma:** Administration of *Bu Zhong Yi Qi Tang* had a dose-dependent effect to inhibit the proliferation of

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human hepatoma cell lines (Hep3B, HepG2 and HA22T). The same formula, however, did not significantly inhibit the proliferation of normal human hepatocytes (Chang liver, CCL-13) at a concentration under 5,000 mcg/mL. The mechanism of this action was attributed to suppressed proliferation of hepatoma cells via G0/G1 cell cycle arrest and inhibition of DNA synthesis followed by apoptosis.⁴³

23. **Hepatocellular carcinoma:** One study evaluated the cellular physiology of *Bu Zhong Yi Qi Tang* for the treatment of hepatocellular carcinoma. *In vitro* studies have shown that *Bu Zhong Yi Qi Tang* is capable of increasing granulocyte colony-stimulating-factor (G-CSF) and tumor necrosis factor-alpha (TNF-alpha) production by peripheral blood mononuclear cells. This effect was observed in both healthy volunteers and patients with hepatocellular carcinoma. Because of this unique effect to stimulate the production of TNF-alpha and G-CSF and activate the biological defensive mechanism, the researchers stated that *Bu Zhong Yi Qi Tang* may be beneficial for patients with hepatocellular carcinoma.⁴⁴

HERB-DRUG INTERACTION

- **Mitomycin C-induced immunosuppression:** Administration of mitomycin C, a chemotherapy agent for cancer, is often associated with immunosuppression and infectious diseases. One study reported that *Bu Zhong Yi Qi Tang* had beneficial effects in mice, with improvements in spleen weight, number of colonies of granulocytes and macrophages forming in the bone-marrow cells, natural killer activity in splenocytes, and in susceptibility to lethal herpes simplex virus type-1 infection. The researchers concluded *Bu Zhong Yi Qi Tang* may be beneficial in immunocompromised patients receiving chemotherapeutic drugs.⁴⁵
- **Cyclophosphamide-induced leukopenia:** Administration of *Bu Zhong Yi Qi Tang* (1000 mg/kg) in mice treated with cyclophosphamide significantly prevented leukopenia. *Bu Zhong Yi Qi Tang* enhanced the production of hematopoietic lymphokines, stimulated the proliferation of hematopoietic progenitor cells, and consequently accelerated recovery from leukopenia. *Bu Zhong Yi Qi Tang* also contributed a protective effect against bacterial infection by activating phagocyte cells.⁴⁶
- **Radiation-induced hypotension:** According to one study, 30 patients between 25-50 years of age, who had worked in areas with high exposure to radiation, were treated for hypotension. The average blood pressure was 25 mmHg below normal. The patients were divided into three groups according to diagnosis of Spleen qi deficiency, qi and yang deficiencies, and qi and yin deficiencies. Patients in all three groups received *Bu Zhong Yi Qi Tang* as the

base formula. *Fu Zi* (Radix Aconiti Lateralis Praeparata) and *Yin Yang Huo* (Herba Epimedii) were added for those who had qi and yang deficiencies. *Sheng Mai San* (Generate the Pulse Powder) was added for those who had qi and yin deficiencies. After 5 days of treatment, the study reported marked improvement in 47% of patients, moderate improvement in 40%, and no improvement in 13%. Marked improvement was defined as subjective improvement of symptoms according to the patients with an objective increase in blood pressure of 15-24 mmHg, and moderate improvement was defined as no significant changes in subjective symptoms, but an increase of 15 mmHg of blood pressure.⁴⁷

- **Liver metabolism:** One study on the metabolic activity of different cytochrome P450 (CYP) isoforms reported *Bu Zhong Yi Qi Tang* to be a competitive inhibitor of CYP3A4 (Ki value of 0.65 mg/mL) and CYP2C9 (Ki value of 0.7-0.8 mg/mL), but not CYP2D6. The study concluded that because of this inhibitory effect on liver metabolism, care should be taken with concurrent use of *Bu Zhong Yi Qi Tang* and drugs.⁴⁸

TOXICOLOGY

In an acute toxicology study, no fatality or abnormal reactions were noted in mice following oral ingestion of the formula at the dose of 166 g/kg twice daily for 3 days.⁴⁹

SUGGESTED ACUPUNCTURE TREATMENT

1. Points: *Pishu* (BL 20), *Gaohuangshu* (BL 43), *Zhongwan* (CV 12), *Qihai* (CV 6), *Housanli* (ST 36), *Tianshu* (ST 25), *Guanyuan* (CV 4), and *Baihui* (GV 20).
2. Technique: Tonification. Moxibustion may also be used.

Pishu (BL 20), *Gaohuangshu* (BL 43), *Zhongwan* (CV 12), and *Qihai* (CV 6) tonify qi of the middle *jiao*. *Housanli* (ST 36) lifts qi of the middle *jiao* and relieves diarrhea, while *Tianshu* (ST 25) regulates the intestines and helps diarrhea. *Guanyuan* (CV 4) strengthens yang. *Baihui* (GV 20) causes yang qi to ascend and relieves qi depression or collapse.

AUTHORS' COMMENTS

Bu Zhong Yi Qi Tang is frequently used in veterinary medicine to treat a wide variety of body system disorders.

- For the treatment of myasthenia gravis with weakness in the dog, caused by the failure of the Spleen and Stomach to nourish the muscles, add *Gou Qi Zi* (Fructus Lycii), *Zhi Shi* (Fructus Aurantii Immaturus), *Jie Geng* (Radix Platycodonis), *Fu Ling* (Poria), *Huang Qin* (Radix Scutellariae), and *Dan Shen* (Radix et Rhizoma Salviae Miltiorrhizae).

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- For the treatment of myasthenia gravis in young dogs with qi and yin deficiencies, combine with *Liu Wei Di Huang Wan* (Six-Ingredient Pill with Rehmannia) or *Zuo Gui Wan* (Restore the Left [Kidney] Pill). For dogs with Kidney qi and yang deficiencies, combine with *Jin Gui Shen Qi Wan* (Kidney Qi Pill from the Golden Cabinet). For dogs that have concurrent damp-heat, add *Si Miao San* (Four-Marvel Powder).
- To treat leukopenia secondary to chemotherapy with yin deficiency, add *Ji Xue Teng* (Caulis Spatholobi), *Nu Zhen Zi* (Fructus Ligustri Lucidi), *Qing Hao* (Herba Artemisiae Annuae), *Bie Jia* (Carapax Trionycis), and *Di Gu Pi* (Cortex Lycii).
- For poor appetite, bloating, and loose stools in horses with Cushing's disease, use *Bu Zhong Yi Qi Tang* to complement *You Gui Wan* (Restore the Right [Kidney] Pill).
- For the treatment of canine hypothyroidism with qi and yin deficiencies, combine with *Liu Wei Di Huang Wan* (Six-Ingredient Pill with Rehmannia).
- For degenerative myelopathy in the dog, combine with *Bu Yang Huan Wu Tang* (Tonify the Yang to Restore Five Decoction); for qi and yin deficiency, add *Sheng Mai San* (Generate the Pulse Powder).
- In the treatment of Addison's disease (hypoadrenocorticism) with hypotension, lethargy and inappetence, it can be combined with *Sheng Mai San* (Generate the Pulse Powder).
- For fibrocartilaginous emboli (FCE) in the dog, combine with either *Shen Tong Zhu Yu Tang* (Drive Out Blood Stasis from a Painful Body Decoction) or *Xue Fu Zhu Yu Tang* (Drive Out Stasis in the Mansion of Blood Decoction), depending on the case.
- For masticatory myositis in the dog, combine with *Shen Tong Zhu Yu Tang* (Drive Out Blood Stasis from a Painful Body Decoction) and add the following herbs to dispel toxic wind: *Quan Xie* (Scorpio), *Feng Fang* (Nidus Vespae), *Fang Feng* (Radix Saposhnikoviae), *Fang Ji* (Radix Stephaniae Tetrandrae), *Wei Ling Xian* (Radix et Rhizoma Clematidis), *Tian Nan Xing* (Rhizoma Arisaematis), and *Fu Zi* (Radix Aconiti Lateralis Praeparata). For dogs that have damp-heat, add *Si Miao San* (Four-Marvel Powder). This combination can be used until the clinical signs resolve, which can take up to 3 months; after resolution, it should be discontinued and a more constitutional formula chosen to consolidate the effects of treatment. For animals with significant atrophy, pneumoacupuncture is beneficial to restore normal muscle mass.
- For progressive retinal atrophy (PRA) due to qi and blood deficiency with stagnation, combine with *Xue Fu Zhu Yu Tang* (Drive Out Stasis in the Mansion of Blood Decoction) and *Si Wu Tang* (Four-Substance Decoction), or combine with *Tao Hong Si Wu Tang* (Four-Substance Decoction with Safflower and Peach Pit). With more yin deficiency, combine with *Qi Ju Di Huang Wan* (Lycium Fruit, Chrysanthemum, and Rehmannia Pill) and add *Dan Shen* (Radix et Rhizoma Salviae Miltiorrhizae).
- For the treatment of non-healing corneal ulcers or corneal dystrophy with blood deficiency and stagnation, combine with *Tong Qiao Huo Xue Tang* (Unblock the Orifices and Invigorate the Blood Decoction) and *Si Wu Tang* (Four-Substance Decoction); with Kidney and Liver yin deficiency, add *Qi Ju Di Huang Wan* (Lycium Fruit, Chrysanthemum, and Rehmannia Pill).
- For the treatment of cataracts in dogs with blood stasis and Spleen deficiency, combine with *Tao Hong Si Wu Tang* (Four-Substance Decoction with Safflower and Peach Pit) and add *Gou Qi Zi* (Fructus Lycii), *Shu Di Huang* (Radix Rehmanniae Praeparata), *Jue Ming Zi* (Semen Cassiae), *Gu Jing Cao* (Flos Eriocauli), *Shan Yao* (Rhizoma Dioscoreae), *Ju Hua* (Flos Chrysanthemi), *Xuan Shen* (Radix Scrophulariae), *Qing Xiang Zi* (Semen Celosiae), and *Shi Jue Ming* (Concha Haliotidis).
- For the treatment of chronic renal failure and glomerulonephritis with significant proteinuria, combine *Bu Zhong Yi Qi Tang* with *Dan Shen* (Radix et Rhizoma Salviae Miltiorrhizae), *Qian Shi* (Semen Euryales), *Yi Zhi* (Fructus Alpiniae Oxyphyllae), *Fu Pen Zi* (Fructus Rubi), and *Jin Ying Zi* (Fructus Rosae Laevigatae).
- For megaesophagus, combine with *Tao Hong Si Wu Tang* (Four-Substance Decoction with Safflower and Peach Pit) or *Xue Fu Zhu Yu Tang* (Drive Out Stasis in the Mansion of Blood Decoction), depending on the case.
- For megacolon in the cat due to qi and yin deficiencies, combine with *Zeng Ye Tang* (Increase the Fluids Decoction) to generate body fluids, moisten dryness, and unblock the bowels; and add the smallest therapeutic dose of *Da Huang* (Radix et Rhizoma Rhei) to help purge accumulation, in combination with subcutaneous or intravenous fluid therapy.
- For rectal prolapse that is chronic and severe, add astringent herbs such as *Wu Wei Zi* (Fructus Schisandrae Chinensis), *Jin Ying Zi* (Fructus Rosae Laevigatae), *Wu Bei Zi* (Galla Chinensis), or *Wu Mei* (Fructus Mume). If bleeding is a problem, add *Xian He Cao* (Herba Agrimoniae). If there is heat in the intestines, add *Huang Qin* (Radix Scutellariae), *Bai Shao* (Radix Paeoniae Alba) and *Huai Hua* (Flos Sophorae). With hard-to-pass sticky stools, add *Huo Ma Ren* (Fructus Cannabis) and *Feng Mi* (Mel).
- For urinary incontinence in the dog due to Spleen and Lung deficiencies, add *Mu Li* (Concha Ostreae), *Chen Pi* (Pericarpium Citri Reticulatae), *Yi Zhi* (Fructus Alpiniae Oxyphyllae), and *Wu Wei Zi* (Fructus Schisandrae Chinensis). Combine with *Suo Quan Wan* (Shut the Sluice

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Pill) and *Fu Pen Zi* (Fructus Rubi) for Kidney qi deficiency; *You Gui Wan* (Restore the Right [Kidney] Pill) or *Jin Gui Shen Qi Wan* (Kidney Qi Pill from the Golden Cabinet) for Kidney yang deficiency; *Sang Piao Xiao San* (Mantis Egg-Case Powder) for Kidney and Heart qi deficiencies. Urinary incontinence can also be initially treated by combining *Bu Zhong Yi Qi Tang* with *Jin Suo Gu Jing Wan* (Metal Lock Pill to Stabilize the Essence), which is primarily an astringent formula. After the incontinence is under control, a constitutional or root formula to tonify underlying deficiencies is needed to consolidate the effects of treatment. For middle age and older dogs with yin deficiency, in which deficient yin causes weakness and deficiency heat forces urine out of the bladder with dribbling of urine, combine with *Zhi Bai Di Huang Wan* (Anemarrhena, Phellodendron, and Rehmannia Pill).

- For a comparative discussion of Spleen tonic formulas, see *Si Jun Zi Tang* (Four-Gentlemen Decoction).

It is often asked that if *Bu Zhong Yi Qi Tang* treats prolapsed organs, why are *Sheng Ma* (Rhizoma Cimicifugae) and *Chai Hu* (Radix Bupleuri) not used as chief herbs at larger doses to maximize the effects? There are two reasons why a large dose of these two herbs is inappropriate:

- First, the prolapse is caused by qi deficiency, so tonic herbs such as *Ren Shen* (Radix et Rhizoma Ginseng), *Bai Zhu* (Rhizoma Atractylodis Macrocephalae), and *Zhi Gan Cao* (Radix et Rhizoma Glycyrrhizae Praeparata cum Melle) must be used to treat the underlying deficiency, which is the root of the condition.
- Second, the primary function of *Chai Hu* (Radix Bupleuri) and *Sheng Ma* (Rhizoma Cimicifugae) is to release the exterior, and their secondary function is to lift prolapsed organs. If they are used at larger doses, their dispersing and exterior-releasing functions would override their lifting effect and injure the *zheng* (upright) *qi* of the body.⁵⁰

Huang Qi (Radix Astragali) is the main ingredient in two important formulas, but with slightly different purposes:

- *Bu Zhong Yi Qi Tang* contains *Huang Qi* (Radix Astragali) to tonify qi and cause yang to ascend. It treats Spleen and Stomach qi deficiencies with prolapsed organs. Animals will exhibit fatigue, poor appetite, weight loss, chronic diarrhea, and spontaneous sweating.
- *Dang Gui Bu Xue Tang* (Tangkuei Decoction to Tonify the Blood) contains *Huang Qi* (Radix Astragali) at a dose five times higher than *Dang Gui* (Radix Angelicae Sinensis) to boost qi and generate blood. It is mainly used for blood deficiency with deficiency heat signs, spontaneous sweating, and a large, weak pulse.

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