

Research Progress of Zhongjing's Xiexin Decoction-Type Formulas in the Treatment of Chronic Gastritis

Tong Zhu^{1,2}, Jianping Hui^{2,*}

¹Shaanxi University of Chinese Medicine, Xianyang 712046, Shaanxi, China

²Affiliated Hospital of Shaanxi University of Chinese Medicine, Xianyang 712000, Shaanxi, China

*Correspondence Author

Abstract: *Helicobacter pylori* infection is closely related to chronic gastritis. Traditional Chinese medicine has rich experience and a theoretical system for treating chronic gastritis. According to literature research, Chinese herbal medicine has the advantages of good efficacy and few side effects and is widely used in clinical treatment. Xiexin Decoction-type formulas can effectively treat chronic gastritis, mainly through eradication of *Helicobacter pylori*, repair of the gastric mucosa, and reduction of inflammatory factors. Based on relevant literature, this article discusses the mechanisms, principles, and corresponding pathways and targets of Xiexin Decoction-type formulas. It explores the application of Chinese medicine in treating chronic gastritis from macroscopic and microscopic perspectives, providing a theoretical basis for the treatment of chronic gastritis with Chinese medicine.

Keywords: Xiexin Decoction, Chronic gastritis, *Helicobacter pylori*, Inflammatory factors, Review.

1. Introduction

Chronic gastritis (CG) is a common and frequently occurring disease of the digestive system. It is a chronic inflammation of the gastric mucosa caused by multiple etiologies, including *Helicobacter pylori* (*H. pylori*) infection. China has 120 million patients with gastrointestinal diseases, and the incidence of chronic gastritis is 30%. It is usually divided into chronic superficial gastritis (CSG) and chronic atrophic gastritis (CAG) [1]. The concept of “stiffness and fullness” (pi-man) originated in the Huangdi Neijing (Yellow Emperor's Inner Classic), where it was called “pi,” “fullness,” and “pi-obstruction.” In the Han Dynasty, Zhang Zhongjing's Shanghan Zabing Lun (Treatise on Cold Damage and Miscellaneous Diseases) stated: “Only fullness without pain is called pi.” In the Sui Dynasty, Chao Yuanfang's Zhubing Yuanhou Lun (Treatise on the Origins and Symptoms of Diseases), in the chapter on the various pi and ye (stiffness and dysphagia) disorders, proposed “eight kinds of pi,” holding that the disease is caused by disharmony between nutritive (ying) and defensive (wei) qi, separation of yin and yang, external invasion of wind pathogen contending with defensive qi, obstruction of blood and qi, or by worry and anger accumulating qi, or by internal injury from falls. The Lan Shi Mi Cang (Secrets of the Orchid Chamber) states: “Spleen dampness is excessive, with abdominal fullness and failure of food to transform,” focusing on abdominal distension and middle-focal fullness.

In the Qing Dynasty, Lin Peiqin's Leizheng Zhicai (Pattern Treatment by Category), in the section on stiffness and fullness, said: “Stiffness in cold damage enters from the exterior to the interior, so bitter draining is appropriate; stiffness in miscellaneous diseases goes from the interior to the exterior, so acrid dispersion is appropriate.” The Western medicine diseases covered by stiffness and fullness are mostly chronic gastritis in modern medicine. The Xiexin Decoction-type formulas are carefully structured and precisely dosed. Banxia Xiexin Decoction mainly treats the pi

syndrome of mixed cold and heat; Shengjiang Xiexin Decoction focuses on dispersing binding and removing water; Gancao Xiexin Decoction focuses on boosting qi and supplementing the Earth (spleen/stomach); Fuzi Xiexin Decoction focuses on securing the exterior and dispelling cold; and Dahuang Huanglian Xiexin Decoction focuses on draining heat from the upper jiao to treat bleeding. Zhongjing's Xiexin Decoctions are widely used clinically. The following is a brief analysis of the ancient literature, medical research, and drug mechanisms of the Xiexin Decoction-type formulas in treating chronic gastritis, with emphasis on the clinical value of these formulas and promotion of the application of Chinese medicine in this disease.

2. Ancient Literature Research

2.1 Banxia Xiexin Decoction

Banxia Xiexin Decoction appears in the Shanghan Lun: “Febrile disease for five or six days, with vomiting and fever ... only fullness without pain ... Banxia Xiexin Decoction is appropriate.” In the Jingui Yaolue (Essential Prescriptions from the Golden Cabinet): “Vomiting with borborygmus and stiffness below the heart, Banxia Xiexin Decoction governs.” Both are used to treat abdominal pain with borborygmus or with diarrhea. The reason for “fullness without pain” is that the exterior pattern has not entered the interior, and Taiyang cold-water stays around the stomach along the triple energizer oil-film network. Because what surrounds it is water, there is neither heat nor dampness; therefore, Bupleurum is not used. Professor Hao Wanshan held that “stiffness below the heart” is actually stomach deficiency with phlegm disturbance, failure of the middle jiao to govern rotation, and dysfunction of the pivot mechanism. Therefore, upper-jiao stomach heat and qi counterflow upward, while lower-jiao spleen cold and qi sinking cause diarrhea. The Shanghan Dabai (Great Clarification of Cold Damage) considers the patterns of Zhang Zhongjing's Banxia

Xiexin Decoction and the various Xiexin Decoctions “all caused by phlegm-rheum.” Yu Jiayan also believed that “all Xiexin Decoctions originally drain rheum.” Its pathogenesis is summarized as middle-jiao stuffiness and fullness obstructing qi movement; pathogenic heat enters the interior, the stomach fails to harmonize descending, causing vomiting; spleen deficiency and cold in the lower jiao cause borborygmus and diarrhea. In Banxia Xiexin Decoction, Pinellia and dried ginger acridly open and disperse binding; Scutellaria and Coptis bitterly drain and relieve fullness; ginseng, licorice, and jujube regulate and tonify the middle jiao. Together they treat the pi syndrome of mixed cold and heat.

2.2 Fuzi Xiexin Decoction

Fuzi Xiexin Decoction comes from the Shanghan Lun: “Stuffiness below the heart, with aversion to cold and sweating, Fuzi Xiexin Decoction governs.” Jiang Yuan’an believed that its pathogenesis is fire-heat gathering in the middle jiao and then damaging lower-jiao kidney yang, resulting in upper heat and lower cold due to deficiency of kidney yang. Qian Tianlai stated: “The stagnant-heat pathogen of febrile disease mistakenly enters and forms stuffiness, while true yang of the life gate is deficient. Yang deficiency causes aversion to cold, and defensive qi is not secure, causing sweating.” The Gufang Xuanshu (Annotations on Ancient Formulas) states: “Qi in the upper jiao is also depressed, so all three jiao are hot; bitter-cold drugs must be used. However, fearing sudden collapse from deficiency cold, the three yellow drugs are used to clear the three jiao.” In this formula, the three yellow drugs — rhubarb, Coptis, and Scutellaria — are steeped in boiling water to obtain their qi, clearing upper-jiao lung heat. Processed aconite is separately decocted to extract the juice, taking its thick flavor, to warm lower-jiao kidney yang, secure the exterior, and stop sweating. Therefore, You Yi said: “Cold and heat differ in qi; raw and prepared differ in nature. Although the drugs act together, their effects each achieve their own function.”

2.3 Dahuang Huanglian Xiexin Decoction

Dahuang Huanglian Xiexin Decoction appears in the Shanghan Lun: “Stuffiness below the heart, soft under pressure, and the pulse at the guan position is floating.” The Qixiao Liangfang (Miraculous Effective Formulas) states: “Treats after severe purgation in cold damage ... if it cannot be purged, this medicine should attack the stuffiness.” The guan position represents the middle diaphragm and the stomach. A floating pulse at the guan position indicates upper-jiao chest yang heat. Softness under pressure indicates intangible pathogenic heat. The inclusion of rhubarb and Coptis reflects vigorous middle-jiao fire-heat; softness under pressure indicates that there is no tangible pathogen binding below the heart, and modern scholars also call it fire-heat stuffiness. The Gufang Xuanshu states: “Stuffiness that is not caused by purgation occurs when sovereign fire is hyperactive and cannot descend to intersect with yin. If it is soft under pressure, it is not tangible stuffiness; only bitter cold can drain it.” In the formula, rhubarb and Coptis are soaked in boiling water to take their qi; the light qi ascends and can clear upper-jiao heat. The Heji Jufang (Formulary of the Bureau of

Pharmacy) states: “Upper jiao heat attacks upward, causing redness and swelling of the eyes; middle jiao heat causes vexation and agitation in the chest and diaphragm; lower jiao heat causes reddish and dribbling urine and constipation.” Rhubarb and Coptis themselves have thick qi and heavy flavor and can clear intense upper-jiao heat and bleeding. The Leiju Fangguang (Expanded Classified Formulas) states: “For smallpox with intense fever and bleeding from the seven orifices.” The Fangyu Ni states: “For all bleeding from the nine orifices of the body — bloody stool, hematuria, gingival bleeding, tongue bleeding, ear bleeding, and so on — there is none it does not treat.”

2.4 Shengjiang Xiexin Decoction

Shengjiang Xiexin Decoction comes from the Shanghan Lun: “In febrile disease, after sweating, once the exterior is resolved ... borborygmus like thunder in the abdomen, with diarrhea, Shengjiang Xiexin Decoction governs.” The Shanghan Dabai states: “This formula is used because after sweating the exterior is resolved, stomach yang is deficient and cannot distribute water-rheum, causing borborygmus in the abdomen and diarrhea. Therefore, fresh ginger assists dried ginger in harmonizing stomach yang. This is a method derived from a phlegm-heat formula to expel cold-rheum.” The Gufang Xuanshu states: “There are five Xiexin Decoctions, and none departs from opening binding, draining heat, and boosting the stomach ... The whole formula breaks stagnation and disperses yang; this is also the meaning of ‘draining the heart/epigastrium.’” This pattern is caused by stomach qi deficiency and failure of the middle jiao to govern rotation. First, water pathogen lodges in the stomach, so the stomach cannot rot and ripen food; stomach heat and qi counterflow upward, causing belching with the odor of food. Second, water flows from below the hypochondrium into the intestines, causing borborygmus and diarrhea. The Yizong Jinjian (Golden Mirror of Medicine) states: “It is named Shengjiang Xiexin Decoction because its meaning emphasizes dispersing the stuffiness of water qi.” In this formula, fresh ginger and dried ginger are used together. Dried ginger warms the middle and promotes gastrointestinal peristalsis; fresh ginger disperses water vapor in the stomach; Pinellia resolves water-damp in the middle jiao; Scutellaria and Coptis clear heat and resolve toxin; ginseng, honey-fried licorice, and jujube supplement body fluids. The Shanghan Lun Benyi (Original Meaning of the Shanghan Lun) states: “This Shengjiang Xiexin uses bitter to treat heat, sweet to tonify deficiency, and acrid to disperse stuffiness; it is a formula exactly matching the syndrome.”

2.5 Gancao Xiexin Decoction

Gancao Xiexin Decoction comes from the Shanghan Lun: “In febrile disease or wind strike, the doctor erroneously purged ... but because the stomach is deficient and guest qi binds upward, it causes hardness; Gancao Xiexin Decoction governs.” The Jingui Yaolue, in the chapter on pulse, syndrome, and treatment of lily disease, hu-huo disease, yin-yang toxin, states: “The disease of hu-huo resembles febrile disease; the patient is listless, wants to sleep, and has no appetite ... when erosion is in the upper part, the voice becomes hoarse; Gancao Xiexin Decoction governs.” In this pattern, the doctor’s erroneous purgation caused stuffiness

below the heart, but the root pathogenesis is mainly stomach qi deficiency, dysfunction of the middle-jiao pivot, guest qi disturbing upward, stomach heat and qi counterflow with exuberant upper-jiao yang, and lower-jiao spleen deficiency with qi sinking and borborygmus in the abdomen. This formula heavily uses licorice, increasing it to four liang on the basis of Banxia Xiexin Decoction, focusing on invigorating the spleen, boosting qi, and supplementing the deficiency of middle qi. Ginseng and jujube supplement stomach and intestinal fluids; dried ginger warms yang and disperses cold; Pinellia stops vomiting; Scutellaria and Coptis clear deficiency heat. In the Shanghan Lun version, ginseng is absent, while in the Jingui Yaolue version, ginseng is present. Therefore, some scholars believe that this formula has two uses. If guest heat disturbing upward is obvious, ginseng is not used. The Shang Lun Pian (Elevated Discourse on Cold Damage) states: "Guest pathogen takes advantage of deficiency and binds below the heart. Ginseng should be used, but ginseng is soft and lacks firm strength, so it is not used." If spleen deficiency is severe and guest heat disturbing upward is not obvious, ginseng is added. Yu Chang said: "In the chapter, the root of chest binding and stuffiness is said to be emptiness in the stomach. Here it says disharmony in the stomach, because it became empty without erroneous purgation. Therefore, it only says disharmony. Yet disharmony alone is enough to form stuffiness. How great indeed is the importance of stomach qi."

3. Clinical Research and Basic Research

3.1 Banxia Xiexin Decoction

3.1.1 Clinical Research

Studies have shown that Banxia Xiexin Decoction combined with Western medicine has a significant effect in treating chronic gastritis [2]. Liu Bing et al. divided 98 subjects into a control group and an observation group using a random number table. The control group received conventional Western medicine, while the observation group additionally received Banxia Xiexin Decoction. Comparison of serum markers and *H. pylori* eradication rates between the two groups showed that the observation group had good results [2]. Lü Anding et al. found that Banxia Xiexin Decoction is helpful for gastric mucosal repair [3]. Banxia Xiexin Decoction in the treatment of gastritis can reverse or prevent cancerous changes, inhibit peritoneal metastasis of gastric cancer, and assist in the treatment of gastric cancer [4]. Shi Shenghua et al. found that Banxia Xiexin Decoction has definite efficacy in elderly patients with *H. pylori*-positive chronic gastritis, and can enhance gastric motility, improve gastrointestinal hormone levels, and reduce the inflammatory response [5].

3.1.2 Basic Research

H. pylori infection releases related virulence factors, disturbs the steady-state balance of the gastric environment, induces morphological and functional changes and death of mucosal cells, and ultimately induces atrophy [6]. Li Huizhen et al. administered *H. pylori* bacterial suspension by gavage combined with the MNNG multi-factor method to establish a mouse model of *H. pylori*-associated gastritis, confirming that

H. pylori can severely disrupt the FoxP3/ROR γ t immune balance, leading to imbalance of the immune microenvironment and sustained gastric mucosal injury [7]. Banxia Xiexin Decoction can reduce the expression of inflammatory factors, help gastric mucosal recovery, and alter the gastrointestinal microbial environment, reflecting its important value in the treatment of CAG [8]. The JAK/STAT pathway participates in the occurrence and development of many diseases. p-JAK2 can phosphorylate STAT3, activating target genes and triggering inflammatory responses. Studies have shown that JAK1 and p-STAT3 participate in the formation, metaplasia, atrophy, and canceration of chronic gastritis [9–11]. Qiao Yanyan et al. found through rat modeling that Banxia Xiexin Decoction can reduce the protein expression of p-JAK2 and p-STAT3 in gastric tissue and protect gastric mucosal intestinal epithelial cells.

3.2 Gancao Xiexin Decoction

3.2.1 Clinical Research

Xu Yanjie randomly divided 64 patients into a control group and an observation group, with 32 cases in each group. Comparison showed that Gancao Xiexin Decoction combined with Western medicine had better efficacy than the control group [12]. It can effectively alleviate gastric mucosal injury, promote gastric mucosal repair, and inhibit *H. pylori* infection [12]. Zhang Ximin applied Gancao Xiexin Decoction and found that it can significantly improve gastric mucosal congestion, edema, and erosion, and has a certain therapeutic effect on eradicating *H. pylori* infection [13]. This formula is widely used clinically, and relevant clinical studies show that it is clearly effective in chronic superficial gastritis, with good application prospects.

3.2.2 Basic Research

Abnormal immune response is closely related to CAG. *H. pylori* infection affects the expression of FoxP3 and ROR γ t in the gastric mucosa and increases the blood concentrations of IL-10, IL-17A, and IL-6, causing gastric mucosal injury [14]. In Gancao Xiexin Decoction, licorice contains liquiritin and other components that can effectively reduce the expression of COX factors and regulate the production of COX-2, thereby achieving an anti-inflammatory effect [14]. Zheng Lianlian's clinical study found that Gancao Xiexin Decoction combined with Western medicine can reduce the serum IL-6 level and regulate the levels of pro-inflammatory and anti-inflammatory factors [15].

3.3 Shengjiang Xiexin Decoction

3.3.1 Clinical Research

Shengjiang Xiexin Decoction mainly treats the pi syndrome of intermingled water and heat. It is commonly used for diarrhea caused by gastrointestinal inflammation and dyspepsia caused by *H. pylori* infection [16]. Liu Xuemei used Shengjiang Xiexin Decoction for patients with severe gastroenteritis and achieved an obvious therapeutic effect [16]. In addition, this formula can regulate gastrin secretion, improve gastric motility, promote gastric peristalsis, and improve symptoms of dyspepsia [17].

3.3.2 Basic Research

Through rat diarrhea modeling, it was found that Shengjiang Xiexin Decoction can regulate the structure of gastrointestinal microbiota, improve intestinal bacterial metabolism, protect the gastric mucosa, and treat diarrhea [18]. The formation of gastritis is also closely related to the imbalance of non-*H. pylori* flora in the gastrointestinal tract [19]. The growth of non-*H. pylori* flora in the stomach can aggravate the inflammatory response and accelerate gastric mucosal atrophy, metaplasia, and tumor formation [19]. Low-dose Shengjiang Xiexin Decoction can effectively inhibit bacterial toxicity, help restore damaged intestinal epithelial cells, and prevent and treat chronic atrophic gastritis [20].

3.4 Fuzi Xiexin Decoction

3.4.1 Clinical Research

This formula mainly treats the cold-heat complex pi syndrome, or upper-heat/lower-cold syndrome, and is widely used clinically [21]. Jiang Qin treated upper gastrointestinal bleeding differentiated as upper-heat/lower-cold syndrome with this formula and achieved significant results [21]. Dong Jianguo applied modified Fuzi Xiexin Decoction combined with Western medicine in the treatment of chronic renal failure with cold-heat complex syndrome, with obvious efficacy [22].

3.4.2 Basic Research

Wang Chen, based on network pharmacology analysis, found that many targets of Fuzi Xiexin Decoction are enriched in the PI3K-Akt signaling pathway and the AGE-RAGE signaling pathway in chronic atrophic gastritis, providing theoretical support for the treatment of chronic gastritis [23]. Among the medicinals, Coptis and Scutellaria can reduce the production of inflammatory factors through multiple signaling pathways and related targets, preventing CAG from progressing to canceration [24]. Modern studies have shown that rhubarb has a protective effect on the gastric mucosa, can promote the generation of gastric mucosal PGE, and enhance the gastrointestinal mucosal barrier function [25].

3.5 Dahuang Huanglian Xiexin Decoction

3.5.1 Clinical Research

Dahuang Huanglian Xiexin Decoction has good antibacterial, anti-inflammatory, and gastric mucosal protective effects [26]. Zhou Guiji randomly divided 81 patients into a control group and an observation group. The control group received conventional treatment with antibiotics, while the observation group took Chinese medicine. Comparing the *H. pylori* eradication rates of the two groups, the eradication rate in the observation group was significantly higher than that in the control group [27]. The formation of CAG is mainly related to *H. pylori* infection. Virulence factors released by *H. pylori* infection can induce increased expression of protein kinase 3, activation and formation of NLRP3, and secretion of large amounts of mature IL-8, causing the inflammatory response to persist [28]. Zheng Junfu found that Dahuang Huanglian Xiexin Decoction achieved a significantly higher *H. pylori*

eradication rate than the antibiotic group, showing high clinical value [28]. CAG is a precancerous lesion of gastric cancer, and Dahuang Huanglian Xiexin Decoction has certain clinical value in the treatment of precancerous lesions [29].

3.5.2 Basic Research

5-HT is synthesized and secreted by the gastrointestinal mucosa and has the functions of inhibiting the secretion of gastric acid and pepsin and accelerating gastrointestinal contraction and peristalsis [30, 31]. Li Ji et al. analyzed models in 160 rats and found that Dahuang Huanglian Xiexin Decoction can inhibit 5-HT secretion and improve the defense function of the gastric mucosa [32]. Ling Yun et al. studied different immersion conditions in rat models and found that Dahuang Huanglian Xiexin Decoction had the best effect on rat gastric mucosa when immersed at 85°C for 15 minutes [33].

4. Mechanisms of Action

At present, the clearly established etiological mechanism of CAG is *H. pylori* infection. As an important link in the progression from chronic gastritis to gastric cancer, CAG is the gateway of inflammation-cancer transformation. However, the mechanisms of occurrence and development of CAG and inflammation-cancer transformation are still not clearly and uniformly understood. Traditional Chinese medicine treatment of CAG is an effective alternative and combination therapy. The following discussion focuses on the mechanisms of Xiexin Decoction and its related formulas in treating CAG, centered on *H. pylori* eradication, reduction of inflammatory factors, and gastric mucosal repair.

4.1 *H. pylori* Eradication

H. pylori eradication is currently one of the most effective methods for treating CAG [34]. Pan Haiying et al., through clinical observation, found that in patients taking Banxia Xiexin Decoction, serum motilin (MTL) and gastrin (GAS) decreased compared with before treatment, while serum somatostatin (SS) was higher than before treatment. The *H. pylori* eradication effect was good, and the formula could effectively reduce gastric acid secretion, regulate hormone levels, repair the gastric mucosa, and alleviate atrophy [34]. Network pharmacology analysis shows that Banxia Xiexin Decoction can participate in antibacterial and anti-inflammatory effects and prevent inflammation-cancer transformation through multiple pathways and multiple targets, providing a pharmacological basis for the clinical treatment of chronic gastritis [35]. Huang Ganrong et al. cultured multidrug-resistant *H. pylori* in vitro and performed antibacterial experiments. They found that the antibacterial effect of Banxia Xiexin Decoction extract was significantly better than that of antibiotics; its antibacterial effect was comparable to that of berberine, and for some strains the effect was higher than that of berberine [36].

4.2 Gastric Mucosal Repair

Studies have shown that COX-2 is mainly expressed in gastric mucosal epithelial cells infected with *H. pylori* [37], and its expression rate increases in the sequence of gastritis → gastric

mucosal atypical hyperplasia. It prolongs the time of apoptosis, and continuous proliferation induces canceration [37]. Berberine can effectively inhibit the expression of COX-2 and regulate apoptosis of cancer cells [38]. Gastric mucosal damage is mainly caused by invasion of virulence factors released by *H. pylori*. Banxia Xiexin Decoction acts on targets of *H. pylori* to weaken its virulence and regulates p-STAT3 protein expression to prevent inflammation-cancer transformation [39]. Guo Chunxiu et al., through modeling stress ulcers in rats, found that Banxia Xiexin Decoction can inhibit gastric mucosal injury in rats. Its mechanism is to inhibit the release of pro-inflammatory factors and promote the expression of anti-inflammatory factors, regulate COX-2 expression so that gastric mucosal epithelial cells can proliferate and undergo apoptosis normally, and help mucosal recovery [39].

4.3 Reduction of Inflammatory Factors

H. pylori infection can induce increased STAT3 protein expression, promote NLRP3 activation, and release the pro-inflammatory cytokine IL-1 β , causing mucosal inflammatory responses and cell necrosis [40]. Pro-inflammatory cytokines such as IL-1 β , IL-6, and TNF- α are closely related to gastric mucosal injury [40]. Wang Zengzeng et al., in a clinical observation of Gancao Xiexin Decoction for the treatment of *H. pylori*-induced ulcers, found that it can reduce ulcer area and eradicate *H. pylori* [41]. This suggests that Gancao Xiexin Decoction plays a significant role in inhibiting the production of inflammatory factors [41]. Li Xinyi et al. induced acute ulcer modeling in mice, administered Dahuang Huanglian Xiexin Decoction, and observed serum and ulcer area. They found that the ulcer area in mice shrank and the serum IL-1 β content decreased, proving that Dahuang Huanglian Xiexin Decoction can effectively inhibit the NLRP3 reaction and protect the gastric mucosa [42].

5. Conclusion

Based mainly on relevant literature, this article introduces the progress of Zhang Zhongjing's Xiexin Decoctions in the clinical treatment of chronic atrophic gastritis, as well as the etiology, pathogenesis, drug effects, and clinical progress of the Xiexin Decoctions. Zhongjing recorded five Xiexin Decoctions, among which Banxia Xiexin Decoction is the most widely used for CAG. Fuzi Xiexin Decoction treats stuffiness and fullness of cold-heat complex or upper-heat/lower-cold type. In clinical application, it is not used rigidly; the formula is selected according to the syndrome. Prepared aconite excels at securing the exterior, while raw aconite has strong yang-strengthening power. Under normal physiological conditions, yin is calm and yang is dense, manifested as coolness above and warmth below. Heart yang descends to kidney water so that kidney water is not cold; kidney water ascends to heart yang so that heart yang is not overly hot. Therefore, for patients with relatively severe yang deficiency, the combined use of raw and prepared aconite can achieve a better effect.

The occurrence of CAG is mainly due to *H. pylori* infection, while the root cause is deficiency of one's own stomach qi and insufficiency of spleen yang, leading to qi movement disorder

in the middle jiao. Modern medical research has thoroughly analyzed multiple pathways and corresponding therapeutic targets, which can clearly explain the therapeutic principles of Chinese medicine. In the literature cited in this article, Chinese medicine has good efficacy in *H. pylori* eradication, gastric mucosal repair, and cancer prevention. Especially for drug-resistant *H. pylori*, Chinese medicine can also effectively inhibit bacterial growth. Different decoction methods and dosage applications of Chinese medicine often produce different effects. For Dahuang Huanglian Xiexin Decoction, there is a marked difference between soaking in boiling water and direct decoction. In treating exuberant chest yang in the upper jiao, rhubarb and Coptis are lightly decocted to take their qi, thereby "removing their nature while preserving their function." There are differing opinions about how long the light decoction should be made. Experiments now show that immersion at 85°C for 15 minutes produces a good effect. Therefore, combining modern medical research can also yield good efficacy in the treatment of CAG.

Throughout Zhongjing's Xiexin Decoctions, the basic components are Pinellia, Scutellaria, and Coptis. The most exquisite aspect of classical formulas is the proportions of the individual medicinals. For example, in the most classic Guizhi Decoction, the ratio of Guizhi (cassia twig) to Shaoyao (white peony) is one to one. Guizhi strengthens heart yang and promotes arterial ejection, while Shaoyao restrains yin and promotes venous return. This accords with the normal yin-yang equilibrium of ordinary people and shows the exquisiteness of classical formulas. Therefore, when using Xiexin Decoctions, according to the severity of stuffiness and fullness, additional medicinals should be added according to the corresponding proportions, so that a better therapeutic effect can be achieved.

However, the following points still need to be resolved in future application: Fuzi Xiexin Decoction mainly treats cold-heat stuffiness, but there are relatively few related clinical studies on its use in treating gastritis, so its therapeutic effect on gastritis cannot be better explained. The specific mechanism by which Chinese medicine clears *H. pylori* remains unclear and requires further modern pharmacological research. There are relatively few studies on the treatment of gastritis with individual Chinese medicines, and data support is insufficient; therefore, the sample sizes of Chinese medicine treatments need to be expanded. The value of ancient Chinese medicine literature still needs further exploration, and especially the drug dosages in some ancient formulas require further analysis by modern pharmacology. In treating diseases, we should study the mechanisms more deeply from both macroscopic and microscopic aspects, so as to provide more complete theoretical guidance for treatment.

References

- [1] Tian Fengliang, Li Yanping, Liu Fengbin, et al. Expert consensus on traditional Chinese medicine diagnosis and treatment of stuffiness and fullness (2023)[J]. Chinese Journal of Integrated Traditional and Western Medicine on Digestion, 2024, 32(05): 363-369.
- [2] Liu Bing, Qian Xiaoqing, Li Lile, et al. Efficacy of Banxia Xiexin Decoction in treating *H. pylori*-positive chronic atrophic gastritis and analysis of G-17, PGI, and

- PGII levels[J]. Chinese Archives of Traditional Chinese Medicine: 1-9.
- [3] Lü Anding, Du Qiupeng, Jing Zhuchun. Efficacy analysis of Banxia Xiexin Decoction combined with quadruple therapy in treating precancerous lesions of chronic atrophic gastritis[J]. Clinical Journal of Traditional Chinese Medicine, 2024, 36(6): 1139-1143.
 - [4] Dong Jungang, Liu Xiping, Cui Guoning, et al. Study on Banxia Xiexin Decoction in treating gastric cancer[J]. Chinese Journal of Basic Medicine in Traditional Chinese Medicine, 2021, 27(12): 1990-1994.
 - [5] Shi Shenghua, Morigen, Wang Shengyi, et al. Effects of Banxia Xiexin Decoction on gastric motility and gastrointestinal hormones in elderly patients with H. pylori-positive chronic gastritis[J]. Chinese Journal of Gerontology, 2020, 40(20): 4324-4327.
 - [6] Research progress on the mechanism of gastric mucosal immune injury caused by Helicobacter pylori — International Journal of Immunology [EB/OL]. [2024-08-01]. <https://rs.yiigle.com/CN231535201702/992653.htm>.
 - [7] Li Huizhen, Wang Tianlin, Ma Jiale, et al. Exploration of the influence of Banxia Xiexin Decoction on the immune microenvironment in mice with Helicobacter pylori-associated gastritis based on FoxP3/ROR γ t immune imbalance[J]. Lishizhen Medicine and Materia Medica Research, 2021, 32(11): 2574-2578.
 - [8] Ren Xiaojun, Zhang Manling, Zhao Huihui, et al. Research progress on the mechanisms of Banxia Xiexin Decoction in treating chronic atrophic gastritis[J]. Journal of Liaoning University of Traditional Chinese Medicine: 1-10.
 - [9] Qiao Yanyan. Expression and significance of JAK1, p-STAT3, and IL-2 in gastric cancer[J].
 - [10] Bai Na, Yan Guilin, Liu Wenhua, et al. Research progress on pharmacological mechanisms of Chinese medicine in treating chronic atrophic gastritis based on the JAK/STAT signaling pathway[J]. Global Traditional Chinese Medicine, 2024(07): 1406-1411.
 - [11] Jin D, Huang K, Xu M, et al. Deoxycholic acid induces gastric intestinal metaplasia by activating STAT3 signaling and disturbing gastric bile acids metabolism and microbiota[J]. Gut Microbes, 2022, 14(1): 2120744.
 - [12] Xu Yanjie. Clinical efficacy of modified Gancao Xiexin Decoction combined with omeprazole in treating chronic erosive gastritis[J]. Journal of Communications Medicine, 2021, 35(06): 586-587.
 - [13] Zhang Ximin. Summary of 82 cases of H. pylori-associated chronic superficial gastritis treated with Gancao Xiexin Capsule[J]. Gansu Journal of Traditional Chinese Medicine, 2003(11): 21-22.
 - [14] Research progress on the pharmacological effects of liquiritin — International Journal of Clinical Research, OAJRC[EB/OL]. [2024-08-01]. <https://ijcr.oajrc.org/ArticleDetail.aspx?cid=16002>.
 - [15] Zheng Lianlian. Effect of Gancao Xiexin Decoction combined with mesalazine on serum inflammatory factor levels in patients with ulcerative colitis and observation of efficacy[J]. Chinese Journal of Integrated Traditional and Western Medicine on Digestion, 2015, 23(10): 687-689.
 - [16] Liu Xuemei. Treatment of 157 cases of acute gastroenteritis with Shengjiang Xiexin Decoction[J]. Sichuan Traditional Chinese Medicine, 2005(05): 36-37.
 - [17] Wu Bingfeng. Clinical observation of Shengjiang Xiexin Decoction in treating functional dyspepsia of mixed cold-heat type[J]. Chinese Journal of Folk Therapy, 2022, 30(15): 70-73.
 - [18] Wang Juan. Effect of Shengjiang Xiexin Decoction on repair of intestinal mucosal injury in rats after irinotecan chemotherapy[J].
 - [19] Ruan Xiaoyu, Wu Qi, Wu Jing, et al. Research progress on chronic atrophic gastritis and gastrointestinal microbiota[J]. Basic-Level Traditional Chinese Medicine, 2024, 3(05): 116-124.
 - [20] Ma Zhijie, Lü Zhi, Yu Xiaohong, et al. Study on the therapeutic effect of Shengjiang Xiexin Decoction on mice infected with Clostridium difficile[J]. Evaluation and Analysis of Drug-Use in Hospitals of China, 2021, 21(11): 1281-1285.
 - [21] Jiang Qin. Clinical application of Fuzi Xiexin Decoction [J]. Shaanxi Traditional Chinese Medicine, 1992(09): 411-412.
 - [22] Dong Jianguo, Sun Wenhua, Wang Jing. Treatment of 56 cases of chronic renal failure with Fuzi Xiexin Decoction enema [J]. Henan Traditional Chinese Medicine, 2008(05): 3.
 - [23] Wang Chen, Wang Jian, Liu Wanli. Study on the mechanism of Fuzi Xiexin Decoction in treating chronic atrophic gastritis based on network pharmacology[J]. Drugs & Clinic, 2021, 36(10): 2008-2016.
 - [24] Zhu Junxia, Shi Peiyu, Qi Xiangjun, et al. Mechanism of Banxia Xiexin Decoction in treating chronic atrophic gastritis based on network pharmacology and molecular docking[J]. Drug Evaluation Research, 2021, 44(01): 98-110.
 - [25] Xiong Wanyuan, Zheng Ying, Lu Lixia, et al. Research progress on the mechanisms of emodin in protecting gastrointestinal mucosal injury[J]. Drugs & Clinic, 2018, 33(9).
 - [26] Wen Wen, Zhao Weihai. Research progress of Dahuang Huanglian Xiexin Decoction in treating digestive system diseases[J]. Western Journal of Traditional Chinese Medicine, 2024, 37(07): 68-71.
 - [27] Zhou Guiji. Clinical observation of Sanhuang Xiexin Decoction in treating H. pylori-positive chronic gastritis[J]. World Latest Medicine Information Digest, 2018, 18(96): 124-126.
 - [28] Zheng Junfu. Clinical efficacy of Dahuang Huanglian Xiexin Decoction in treating H. pylori-positive chronic gastritis[J]. Inner Mongolia Traditional Chinese Medicine, 2017, 36(04): 45.
 - [29] Tang Jingwen, Tian Tongde, Pei Junwen, et al. Treatment of 30 cases of precancerous lesions of gastric cancer with modified Dahuang Huanglian Xiexin Decoction[J]. Traditional Chinese Medicine Research, 2014, 27(06): 16-18.
 - [30] Chai Junmei. Study on H. pylori infection and expression of 5-HT and CgA in gastric antral mucosa in patients with chronic gastritis of spleen-stomach damp-heat syndrome[D]. Fujian College of Traditional Chinese Medicine, 2007.
 - [31] Wei Beihai, Jin Jingshan, Zhao Zihou, et al. Analysis of the relationship between neurotransmitters and

- gastrointestinal hormones and TCM syndrome types[J]. Journal of Traditional Chinese Medicine, 1989(11): 45-46.
- [32] Li Ji, Xie Tian, Bi Junhui, et al. Effects of Dahuang Huanglian Xiexin Decoction and Lizhong Pill on 5-HT and NE contents in brain tissue of rats with indomethacin-type gastric ulcer cold-heat syndrome models[J]. Liaoning Journal of Traditional Chinese Medicine, 2011, 38(01): 7-9.
- [33] Bao Yuqing, Ling Yun, Shi Yinlong, et al. Effects of Dahuang Huanglian Xiexin Decoction under different immersion conditions on serum NO, ET-1, and SOD in gastric ulcer heat syndrome model rats[J]. Liaoning Journal of Traditional Chinese Medicine, 2018, 45(03): 624-626.
- [34] Pan Haiying, Hu Gaotao, Hu Yuelong. Clinical efficacy of modified Banxia Xiexin Decoction combined with lansoprazole in treating H. pylori-related peptic ulcer[J]. Clinical Rational Drug Use, 2024, 17(21): 86-89.
- [35] Zhou Yuqi, Xiang Shijun, Zhou Chunying, et al. Potential mechanism of Banxia Xiexin Decoction in treating chronic superficial gastritis based on network pharmacology and molecular docking technology[J]. Journal of Guangdong Medical University, 2023, 41(02): 145-154.
- [36] Huang Ganrong, Mo Xiaoqiang, Huang Yanqiang, et al. Inhibitory effect of Banxia Xiexin Decoction extract on multidrug-resistant *Helicobacter pylori*[J]. Journal of Youjiang Medical University for Nationalities, 2016, 38(01): 12-13.
- [37] Luo Yuqin, Wu Kaichun, Sun Anhua, Pan Borong, Zhang Xueyong. Significance of COX-1, COX-2, and iNOS expression in superficial gastritis, gastric mucosal atypical hyperplasia, and gastric cancer tissues[J]. Chinese Journal of Digestion, 2000(04): 3-6.
- [38] Shi Peng, Yao Jie. Effect and mechanism of berberine combined with quadruple therapy in treating H. pylori-positive peptic ulcer[J]. China Medical Herald, 2019, 16(22): 77-79.
- [39] Guo Chunxiu, Wang Dejun, Chen Cong, et al. Effect of Banxia Xiexin Decoction against stress-induced gastric mucosal injury in rats and its influence on inflammatory-related factor contents[J]. Chinese Archives of Traditional Chinese Medicine, 2015, 33(10): 2400-2403.
- [40] Wang Xiaohan, Yang Bingxin, Yu Yong. Mechanism of rebamipide on chronic atrophic gastritis based on network pharmacology and experimental verification[J]. Drugs & Clinic, 2023, 38(03): 531-539.
- [41] Wang Zengzeng, Li Qing. Clinical observation of modified Gancao Xiexin Decoction in treating H. pylori-associated gastric ulcer[J]. Journal of Practical Traditional Chinese Medicine, 2022, 38(08): 1305-1307.
- [42] Li Xinyi, Ling Yun, Zhao Xiaoyun, et al. Protective effect and mechanism of Dahuang Huanglian Xiexin Decoction on acute gastric ulcer by inhibiting NLRP3 inflammasome activity[J]. Tianjin Traditional Chinese Medicine, 2024, 41(05): 635-641.