Advantages And Disadvantages of Combining Chinese and Western Medicine in The Treatment of Chronic Atrophic Gastritis

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Abstract. Chronic atrophic gastritis is also known as atrophic gastritis. It is a chronic digestive disease caused by atrophy and a reduction in the number of epithelium and glands of the gastric mucosa. With social and economic development, and the dramatic increase in social competitive pressure, people's living habits and dietary habits have changed, triggering the incidence of gastrointestinal diseases to increase year by year. Among them, the incidence of atrophic gastritis shows an increasing trend year by year. In this paper, the risk factors that may lead to atrophic gastritis and its pathogenic mechanisms are summarized and analyzed through literature analysis. The relevant treatment options such as Western medicine, Chinese medicine, and combined Western and Chinese medicine were compiled and their efficacy was compared. Numerous studies have shown that people with poor lifestyles and dietary habits, as well as those who are chronically in a bad mood, are more likely to develop atrophic gastritis. The available treatment options are TCM, Western medicine, and a combination of Western and Chinese medicine, but there are limitations to choosing TCM or Western medicine alone. The future direction of atrophic gastritis prevention and treatment is to combine the advantages of Chinese medicine and Western medicine in the treatment process.

Keywords: Chronic atrophic gastritis; Risk factors; Prevention methods; Treatment options.

1. Introduction

Gastric cancer has become a significant health problem in most parts of the world. According to regional and national studies on the burden of gastric cancer in 2017, more than 1.22 million cases occurred worldwide 2017 and approximately 865,000 people died from gastric cancer [1]. Gastric cancer is a significant cause of morbidity and mortality in many regions or countries, and the incidence and number of deaths are increasing globally [1]. The burden of gastric cancer is particularly severe in China, where the incidence, a number of deaths and DALY in 2017 were among the highest in the world [1]. In 2020, there will be about 1.09 million new gastric cancer cases and nearly 770,000 deaths worldwide, including approximately 480,000 new gastric cancer cases and approximately 370,000 deaths in China [2-3]. The Correa gastric cancer cascade sequence of "chronic non-atrophic gastritis-chronic atrophic gastritis-intestinal epithelial hyperplasia-anisotropic hyperplasia-gastric cancer" has been generally accepted by most, but its specific pathogenesis has not been established [2, 4]. Among them, chronic atrophic gastritis, an essential stage in the development of gastric cancer, is generally considered to be a critical window for preventing gastric cancer [5-6]. Numerous studies have shown that atrophic gastritis is associated with various factors, including H. pylori infection, family genetic history, unhealthy dietary habits, and poor mental status. The clinical treatment of atrophic gastritis can be done in Western medicine, Chinese medicine, and a combination of Western and Chinese medicine. All of the above methods can improve patients' clinical symptoms to some extent and even block and reverse gastric mucosal atrophy and intestinal epithelial biochemistry. The current Western medical treatment of atrophic gastritis is based on eradicating H. pylori, promoting gastric motility, and suppressing gastric acid [7]. Numerous studies have demonstrated that Western medical treatment has improved patients' clinical symptoms with localized to atrophic gastritis [5, 7]. Pathologically, the treatment is more effective in patients’ inflammation

and glands, but the efficacy is unstable in patients with intestinal hyperplasia and heterogeneous growth [5]. In addition, Western medicine lacks systematic and specific treatment protocols in the treatment process, and the recurrence of the disease often occurs during treatment [8]. In terms of TCM treatment, the results of studies that have emerged in recent years have shown that TCM treatment of atrophic gastritis is characterized by personalized treatment, treating the symptoms and root cause and having few side effects [5, 8]. The use of TCM treatment protocols can not only effectively alleviate and reduce the inflammatory response of the stomach but also improve the pathology of intestinal metaplasia and heterogeneous growth [5]. However, many studies often suffer from small test sample sizes, lack of high-quality, evidence-based medical evidence, and mechanisms of efficacy that have yet to be elucidated [2, 5, 8]. According to studies, the combination of Chinese and Western medicine is more comprehensive in treating atrophic gastritis than a single medication. This therapy takes advantage of the unique role of TCM in alleviating clinical symptoms and improving gastric mucosal atrophy and intestinal chemosis and the advantage of Western medicine in killing H. pylori to reduce the inflammatory response of the gastric mucosa [9]. Understanding the risk factors associated with an increased likelihood of developing atrophic gastritis and choosing different treatment options to achieve a good outcome after the disease is essential to prevent the development of gastric cancer. This paper discusses the risk factors associated with atrophic gastritis and summarizes the pathogenic mechanisms of the associated factors. Furthermore, provide a comparative analysis of the three treatment options of Western medicine, Chinese medicine, and combined Western and Chinese medicine. It provides a basis for the effective prevention and treatment of atrophic gastritis

2. Risk factors associated with chronic atrophic gastritis and the therapeutic advantages and disadvantages of Chinese and Western medicine

2.1. Symptoms and progression of chronic atrophic gastritis

Chronic atrophic gastritis is also known as atrophic gastritis. It is a digestive disease caused by atrophy and a reduction in the number of glands inherent in the patient's gastric mucosa epithelium [8,10]. Atrophic gastritis lacks specific symptoms, and the severity of its symptoms does not correspond to the degree of gastric mucosal lesions [10]. Most patients are often asymptomatic or have dyspeptic symptoms of varying degrees, such as vague epigastric pain, loss of appetite, postprandial fullness, and acid reflux [11]. Concomitant symptoms such as pallor, dizziness, fatigue, generalized weakness, and tongue inflammation may also occur. As the disease progresses, the patient will experience a progression of atrophic gastritis-intestinal metaplasia-heterogeneous growth-gastric cancer according to the sequence of the Correa gastric cancer cascade [2, 4, 6]. Therefore, it is generally accepted that atrophic gastritis is a crucial stage of intestinal gastric cancer and has about a 2% risk of conversion to gastric cancer [12]. Atrophic gastritis varies significantly between countries and regions. The prevalence of chronic atrophic gastritis is statistically higher in China, while intestinal metaplasia and heterogeneous growth following atrophic gastritis are prevalent [2]. A pathological study of 8892 patients in China found that atrophic gastritis, intestinal metastasis, and dysplasia were prevalent, occurring in 25.8%, 23.6%, and 7.3% of the population, respectively [13]. To reduce the burden of gastric cancer in China, it becomes crucial to understand the risk factors associated with the disease that affects atrophic gastritis. Interventional treatment of patients during atrophic gastritis has become essential for gastric cancer prevention.

2.2. Pathogenesis and risk factors of chronic atrophic gastritis

The pathogenesis of atrophic gastritis is not yet clearly established. Most scholars believe it is mainly related to H. pylori infection, bile or duodenal reflux, pharmacological factors, immune factors, and poor dietary habits [10, 11, 14]. The pathogenesis is all due to the influence of related factors leading to damage to patients' gastric mucosal barrier function. Helicobacter pylori are the primary

clinical pathogen of atrophic gastritis, which has a 5% chance of causing atrophic gastritis if not intervened promptly [8]. According to relevant studies, it is known that the incidence of chronic atrophic gastritis tends to be positively correlated with the rate of H. pylori infection and can lead to further deterioration as the number of H. pylori increases [15]. The principle is twofold: on the one hand, H. pylori neutralize gastric acid by hydrolyzing urea to form histamine, creating a suitable environment for reproduction; on the other hand, its production of histamine and vacuolar toxin damages the epithelial vesicles causing them to release inflammatory substances and the gastric mucosa becomes diseased as a result [8]. Therefore, it is imperative to target H. pylori during the treatment process. Bile reflux stimulates the gastric mucosa to produce varying degrees of edema, congestion, and atrophy manifestations, leading to gastric mucosal atrophy in two main ways. One is that the lipid-soluble substances within bile can effectively remove mucus from the gastric mucosal surface and destroy the epithelial lipoprotein layer, resulting in damage to the mucus-bicarbonate barrier overlying the gastric mucosal surface [5]. After the barrier is damaged, H+ further promotes the release of histamine from mast cells, causing manifestations such as vasodilation, microcirculatory stasis, and increased exudation of inflammatory substances, eventually leading to a further decrease in gastric mucosal function. The second is that bile reflux stimulates gastrin production by G cells in the stomach and duodenum. Gastrin promotes the synthesis and release of histamine by binding to intestinal chromophores on the one hand and causes relaxation of the pyloric sphincter, on the other hand, further aggravating bile reflux [8]. Pharmacological factors are mainly due to damage to the gastric mucosa while applying non-steroidal anti-inflammatory drugs represented by aspirin [5, 12]. Immune factors are often found in European countries due to autoimmune diseases caused by the attack of the patient's autoimmune cells on the secretory cells [5]. In addition, poor dietary habits, unhealthy lifestyle habits, and being in a bad mood for a long time are closely related to atrophic gastritis. A valid sample with complete data was analyzed by combining the questionnaires of Wang Jin, Bai Caiqin, and Wang Lin. Their results showed that family history, alcoholism, smoking, frequent high-calorie foods, high-salt foods, chronic poor mood, and sleep deprivation increase the likelihood of chronic gastritis [11, 16]. According to the results of the study, heavy alcohol consumption causes damage to the gastric mucosa by causing the ethanol contained in alcohol to promote the coagulation of histone on the gastric mucosa [12]. However, moderate alcohol consumption is negatively associated with the development of atrophic gastritis [2]; smoking because tobacco contains a large number of carcinogenic substances such as nitrosamines and polycyclic aromatic hydrocarbons, which damage the mucosa and induce intestinal epithelial hyperplasia. At the same time, nicotine, a neuro stimulant contained in tobacco, induces the release of adrenaline and noradrenaline, which is detrimental to the repair of gastric inflammation [6, 17]; some studies have shown that the risk of atrophic gastritis is 2.88 times higher in anxious individuals than in those without anxiety [5]. Prolonged exposure to adverse emotions can cause immune dysfunction and affect the normal function of the stomach. It also induces the release of norepinephrine from sympathetic cells, which affects the blood supply to the gastric mucosa and diminishes its protective effect [3, 6]. Sleep deprivation, in turn, leads to abnormal corticotropin-releasing factor (CRF) regulation and impaired medial prefrontal cortex activity, exacerbating patients' dysphoria [3]. In conclusion, multiple factors influence the development of chronic atrophic gastritis. It is through a healthy diet and an excellent psychological state that the occurrence or further deterioration of atrophic gastritis can be effectively prevented, and this finding has guiding implications for physicians' treatment.

2.3. Comparison of Western, Chinese, and combined Western and Chinese medical treatment options for chronic atrophic gastritis

Nowadays, Western medicine's primary clinical treatment of atrophic gastritis consists of pharmacological and endoscopic treatment. In pharmacological treatment, traditional triple therapy or quadruple bismuth therapy is usually used [5]. However, traditional triple therapy was widely used in treating atrophic gastritis caused by H. pylori infection in the past, leading to a low eradication rate

of 80% for H. pylori with this therapy [10]. It is no longer recommended [10]. Bismuth quadruple therapy has been gradually used in clinical practice to replace traditional triple therapy with good results. Bismuth quadruple therapy is a dosing regimen using a proton pump inhibitor (PPI) + two antibiotics + a bismuth agent [14]. Among them, proton pump inhibitors are usually used clinically with omeprazole. It is based on the principle of blocking the channels of gastric acid secretion by inhibiting H+-K+-ATPase, reducing the irritation and damage of gastric acid to the patient's gastric mucosa and increasing the effective bactericidal rate of antibiotics [8,18,19]. However, long-term use may alter the colonization pattern of H. pylori. This may accelerate the process of glandular loss and thus increase the rate of gastric atrophy [20]. Regarding the choice of antibiotics, the commonly used drugs are amoxicillin, clarithromycin, levofloxacin, and minocycline. Amoxicillin belongs to penicillin drugs. It has an excellent bactericidal and anti-infective effect, and its combination with metronidazole file leads to enhanced antibacterial capacity [18]. However, the increased resistance of H. pylori to metronidazole files and the high number of adverse effects of metronidazole files today has led to a decrease in the use of metronidazole files [18-19]. Furazolidone or clarithromycin can be used instead. They not only have a strong killing effect on H. pylori but are also less likely to develop resistance [18-19]. The combination of both antibiotics can better improve the patient's infection and better promote recovery. Gastric mucosal protective agents are usually chosen clinically as bismuth potassium citrate or bismuth pectin [18-19]. The effect can be divided into three aspects: firstly, it protects the gastric mucosa by forming a thin film on its surface; then, it stimulates the gastric mucosal epithelial cells to secrete mucus, which strengthens the protective effect on the mucosa; in addition, it has the effect of killing H. pylori, which effectively improves the inflammation of patients and promotes the recovery of the gastric mucosa [18-19]. Bismuth tetralogy can significantly improve the condition of gastric mucosal tissue in most patients [5]. In addition, Zhang Xuelian et al. showed that the combination of folic acid and vitamin B12 on top of quadruple therapy has a higher cure rate than quadruple therapy alone [9]. Endoscopic treatment can be performed for patients not well-treated with medication. Endoscopic mucosal separation, a minimally invasive method for effective treatment, has the feature that the diseased tissue of the digestive tract can be effectively peeled off and wholly removed at one time. However, there is still controversy about ESD for atrophic gastritis because bleeding and perforation are common complications of endoscopic mucosal dissection (ESD) [4]. Currently, Western medicine lacks systematic and specific treatment protocols in the treatment process. Moreover, due to the long duration of atrophic gastritis, the long-term application is prone to drug resistance and adverse effects, reducing the quality of patient survival and the tendency to relapse [2,5]. In Chinese medicine treatment, most practitioners believe that the pathogenesis leading to atrophic gastritis is in the stomach and is closely related to the liver and spleen. The pathological products such as phlegm and dampness, heat and toxicity, and blood stasis are then produced due to external adverse factors that damage the organism [2,5,8]. Therefore, treating atrophic gastritis by strengthening the spleen, nourishing the qi, nourishing the yin and stomach, and activating blood circulation to remove blood stasis can produce better results. Currently, Chinese medicine treats atrophic gastritis with a regimen of internal administration of Chinese herbal tonics and proprietary Chinese medicines and external application of acupuncture, acupuncture point application, acupoint embedding, and moxibustion [5]. The dialectical typing of atrophic gastritis varies among different medical practitioners. In the Consensus Opinion on the Integrated Chinese and Western Medicine Treatment of Chronic Atrophic Gastritis (2017), atrophic gastritis is classified into the evidence types of liver and stomach disharmony, spleen and stomach damp-heat, spleen and stomach weakness, stomach yin deficiency, and Gastric stasis syndrome [7]. Medical practitioners will administer different prescriptions by judging the different types of symptoms. Based on many years of clinical experience, Professor Xu Xueyi classified chronic atrophic gastritis into symptoms: Qi deficiency and blood stasis, yin deficiency and dampness, and dampness and heat. Qi deficiency and blood stasis are due to spleen and stomach weakness caused by poor diet, excessive thinking, and exertion or prolonged illness. Treatment is to benefit the Qi, invigorate the blood, and relieve pain by combining the Decoction of Four Noble Drugs with Sichuan Chinaberry Powder, Red Sage Drink, or Wonderful

Powder for Relieving Blood Stagnation plus and minus; Yin deficiency and dampness syndrome is due to the inability of the stomach to nourish the stomach tissues due to too little fluid. The treatment should be sweet, cool, moistening, stagnation of ascending gasification, with the optional formula of Nourishing the Stomach Decoction, Zuojin Pill, or Banxia Xiexin Decoction plus and minus; Damp heat syndrome is due to the pathogenic evil qi that can damage the spleen and stomach, leading to the blockage of gastric qi, thus affecting the function of the stomach. The treatment is to clear away heat and toxic material, Invigorating the spleen and removing dampness, and the optional formula is Pingwei Powder and Decoction of Three Kinds of Kernels plus and minus [21]. The most commonly used formulas in treating atrophic gastric disorders include Banxia Xiexin Decoction, Modified Xiangsha Liujun Soup, and Nourishing the Stomach Decoction. Ban Xia Xie Xin Decoction consists of Pinellia ternata, Baikal Skullcap, Dried ginger, Licorice, Ginseng, Coptis Chinensis, and Jujube, and the results of Yang Jinxiang et al. showed that this formula has a high efficiency in the treatment of atrophic gastritis [8]. Modified Xiangsha Liujun Soup comprises Codonopsis pilosula, Poria cocos, dried tangerine peel, and Amomum villosum. According to modern medical research, it can be found that this formula can treat atrophic gastritis in several ways. For example, firstly, it reduces the secretion of inflammatory cells in the gastric mucosa in atrophic gastritis, thus improving the level of related enzymes and cellular metabolism. Secondly, the soup can further inhibit HP infection and moderate gastric mucosal inflammation, improving the condition by suppressing inflammation. Finally, the soup promotes the flow of Qi, which accelerates gastrointestinal peristalsis and inhibits the further development of gastritis [22]. Also, according to the results of Cui Li's study, the formula was found to increase the secretion of gastrin and astrodynamics hormone, which improved the gastrointestinal function of patients and could effectively prevent recurrence [23].Nourishing the Stomach Decoction comprises Ginseng, Polygonatum odoratum, Polygonatum odoratum, Birthplace, Crystal sugar, Chinese herbaceous peony, and Licorice, and its total effective rate is 86%, as shown by Li Shuhong's study, which has certain advantages in clinical treatment[8]. Compared with herbal tonics, TCM has the advantages of easy portability, good taste, and no decoction [7]. Chinese patent medicines commonly used in treating atrophic gastritis are Gastric rejuvenation, Morodan, and Qi Zhi Wei Tong Granules. Numerous studies have demonstrated that the addition of Gastric rejuvenation has better efficacy in improving gastric mucosal pathology, the conversion rate of H. pylori, and promoting gastric mucosal regeneration [4-5]. In addition, Morodan consists of eighteen Chinese herbs, which have significant advantages over western drugs alone in the treatment of atrophy, intestinal chemosis, and heterogeneous hyperplasia, but clinically high doses can lead to liver function damage [8]. In adjuvant treatment, acupuncture is often used with the main acupuncture points of Zhongwan, Weishu, and Zusanli and with the Conception and Governor vessels, Yangming Sutra, and Jueyin Meridian [8]. Clinical studies have shown that acupuncture effectively reduces inflammation of the gastric mucosa in patients. In addition, the selection of acupuncture points for different types of patients to apply so that the drug can enter the bloodstream through transdermal absorption has an excellent effect on reducing clinical symptoms [24]. Acupoint embedding and moxibustion are also effective in treating atrophic gastritis [8]. In conclusion, the use of TCM in treating atrophic gastritis is effective and can also be used symptomatically according to the characteristics of the patient's disease, which is worth promoting in clinical practice. However, using TCM alone may lead to a longer treatment time, and the efficacy cannot be seen quickly. A treatment plan that combines both advantages is the combination of Chinese and Western medicine. Combined Chinese and Western medicine treatments are achieved through the use of Chinese herbal tonics combined with Western medicine or a combination of some of the four: Chinese herbal tonics, acupuncture, proprietary Chinese medicine, and Western medicine. The unique role of Chinese medicine in alleviating clinical symptoms, improving gastric mucosal atrophy and intestinal chemosis, and the advantage of western medicine in killing H. pylori are utilized to reduce the inflammatory response of gastric mucosa [9]. In a study by Ren Jing on the combination of traditional Chinese medicine with western medicine vs. western medicine group, it can be seen that traditional Chinese medicine combined with western medicine has advantages in improving the efficacy of atrophic

gastritis, gastric mucosal pathology score, H. pylori conversion rate, and serum IL-6 [5]. In conclusion, combining Chinese and Western medicine is recommended for clinical use in treating atrophic gastritis.

2.4. Prevention of chronic atrophic gastritis

Nowadays, the age of onset of atrophic gastritis is slowly becoming younger [25]. According to studies, the progressive degeneration of the gastric mucosa occurs with increasing age. This process h makes the gastric mucosa more susceptible to damage by external factors that can lead to pathological changes in gastric mucosal atrophy, leading to the development of atrophic gastritis [5, 25]. Wang Nuanfeng et al. analyzed the age of 498 patients with atrophic gastritis. From the data, it can be seen that patients younger than 30 years accounted for 7.83% of cases, patients aged 31-40 years accounted for 15.66% of cases, patients aged 41-50 years accounted for 27.71% of cases, and patients aged 51-60 years accounted for 32.33 of cases [17]. The incidence of atrophic gastritis is positively correlated with age [17, 25]. Since atrophic gastritis serves as an essential window for preventing gastric cancer, the prevention and treatment of atrophic gastritis are vital. In terms of diet, people should reduce the intake of high-salt foods and barbecued foods by changing poor dietary habits, including quitting smoking and limiting alcohol. At the same time, consuming more fresh vegetables and fruits is the essential and moderate intake of dairy products and egg products. The composition of nitrosamines is blocked by vitamins rich in antioxidants in vegetables and fruits, and the proteins closest to the amino acid pattern of human proteins in eggs and dairy products are used to protect the gastric mucosa [6, 12]. In addition, low drinking concentrations of tea also reduce the risk of developing atrophic gastritis, but too high concentrations of tea increase the disease risk [6, 26]. Mentally, a good mood and optimism should be maintained. There is also a need for people with a family history of atrophic gastritis and those of advanced age to undergo regular preventive efforts to exclude the risk of gastric mucosal lesions [27]. These efforts have a positive effect on the prevention of atrophic gastritis.

3. Conclusion

The continuous development and improvement of combined Chinese and Western medicine therapy have shown unique advantages in treating atrophic gastritis. This paper shows that many factors influence the development of chronic atrophic gastritis, but the main pathway is damage to the gastric mucosa. It is essential to avoid foods that can damage the gastric mucosal wall and increase the risk of atrophic gastritis in daily life. At the same time, it is crucial to increase the intake of protein-based foods to protect the gastric mucosa. In addition, a healthy lifestyle and a good mood are needed to reduce the probability of the disease. It is known from this study that establishing good lifestyle and dietary habits in the population with atrophic gastritis can reduce the occurrence of gastric cancer. In terms of treatment, the combination of TCM and Chinese and Western medicine has better advantages in terms of therapeutic effect and can be chosen according to the patient's condition. This paper summarizes and summarizes the causes of atrophic gastritis and summarizes and compares the treatment methods and advantages of three treatment options: Chinese medicine, Western medicine, and a combination of Chinese and Western medicine. This is a guide for physicians in clinical treatment. Since there is no absolutely ideal treatment option for clinical treatment, there is still need a need for continuous exploration to combine the advantages of TCM and Western medicine to provide more effective treatment options for the treatment of atrophic gastritis. In this paper, author mainly wants to reflect on the respective advantages of TCM, Western medicine, and the combination of Chinese and Western medicine and simplifies some of the treatment procedures. Existing studies on TCM in the management of atrophic gastritis have yet to elucidate the mechanism of action of the drugs, and future studies can go deeper into this area.

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