

Summary of Professor Shi Heng-jun's Experience in Dialectical Treatment of Toxic and Side Effects Following Gastric Cancer Chemotherapy

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Abstract: *In recent years, the incidence rate of gastric malignancies in China has been on the rise, and anti-tumor treatment options have been evolving rapidly. However, chemotherapy remains an essential treatment for gastric cancer. Nevertheless, the toxic side effects of chemotherapy have caused fear among some patients, leading to various related toxic reactions such as gastrointestinal reactions, bone marrow suppression, peripheral neurotoxicity, and liver and kidney function damage. A significant number of patients are unable to proceed smoothly due to these toxic side effects, thereby reducing their quality of life. Professor Shi Heng-jun has achieved remarkable clinical efficacy in treating toxic side effects after chemotherapy for gastric cancer. Professor Shi Heng-jun, a renowned traditional Chinese medicine practitioner in Shaanxi Province, has been engaged in clinical work for over 40 years, specializing in the formulation of integrated traditional Chinese and Western medicine treatment plans for advanced malignant tumors and the diagnosis and treatment of toxic side effects after chemotherapy. Professor Shi Heng-jun has achieved significant clinical results in treating toxic side effects after chemotherapy for gastric cancer based on the theory of syndrome differentiation and treatment. Here, Professor Shi's experience in treating such insomnia is shared, accompanied by three case studies to support the claims.*

Keywords: Syndrome differentiation and treatment, Gastric cancer, Toxic and side effects after chemotherapy, Experience of famous doctors.

1. Introduction

According to the latest cancer report published by the National Cancer Center of China (NCC) in 2022 [1], malignant tumor deaths rank second among the causes of death among Chinese residents, accounting for 23.12% of all deaths. The situation of cancer prevention and control is very serious [2-3]. Gastric cancer is a malignant tumor of the gastric epithelial mucosa. Recent data show that with the continuous improvement of living standards and the public's understanding and treatment of the causes of gastric cancer, its incidence rate and mortality rate have shown a downward trend globally. However, gastric cancer remains the most common malignant tumor of the digestive tract, with an incidence rate second only to lung cancer, breast cancer, and intestinal cancer. Although the case fatality rate of gastric cancer has tended to decrease in recent years, the number of deaths caused by gastric cancer each year accounts for more than 40% of the global total [4]. Currently, the incidence rate of gastric cancer is high, and the mortality rate remains high. Studies have found that this may be related to economic levels, prevention awareness, emphasis on health, a generally low detection rate of precancerous lesions and early-stage cancer, and the fact that most patients are diagnosed at an advanced stage when surgical treatment is no longer applicable. Chemotherapy has become the preferred treatment for patients with advanced gastric cancer [5-6]. Although chemotherapy can prolong patients' survival, it often leads to adverse reactions such as bone marrow suppression, nausea, hair loss, and oxaliplatin-induced peripheral neurotoxicity (OIPN), which seriously affect patients' quality of life [7-8]. However, modern medicine has shown limited efficacy in treating the toxic side effects after chemotherapy. Therefore, many scholars have turned their attention to traditional Chinese medicine (TCM). Many clinically proven and timely prescriptions have been included in research. Nowadays,

TCM is increasingly valued for its unique treatment methods and good therapeutic effects on malignant tumors. In terms of tumor treatment, especially in preventing and treating toxic side effects after chemotherapy, traditional TCM has obvious advantages. Combined chemotherapy can play an important role in enhancing efficacy, reducing toxicity, improving immunity, and improving quality of life. Chemotherapy is one of the commonly used methods for treating tumor diseases.

Professor Shi Heng-jun, a renowned traditional Chinese medicine practitioner in Shaanxi Province, is a professor at the Fourth Military Medical University and a master's supervisor. He studied under Professor Wu Yichun, a nationally renowned oncology expert, and has been engaged in clinical medicine, teaching, and research for more than 40 years. He flexibly applies traditional Chinese and Western medicine formulas, especially in the development of integrated diagnosis and treatment plans for advanced malignant tumors and the diagnosis and treatment of toxic side effects after chemotherapy. His academic viewpoint lies in familiarizing himself with classic theories and using classic prescriptions for syndrome differentiation and treatment, forming a unique treatment perspective. Based on the theory of syndrome differentiation and treatment, he has achieved significant clinical results in treating toxic side effects after gastric cancer chemotherapy. Now, Professor Shi shares his experience in treating toxic side effects after chemotherapy as follows.

2. Etiology and Pathogenesis of Gastric Cancer

There is no record of "gastric cancer" in ancient Chinese medical texts, but based on clinical manifestations and physical signs, similar conditions mentioned in ancient texts can be categorized under diseases such as "accumulation", "dysphagia and diaphragmatic obstruction", "nausea",

“stomachache”, and “food obstruction”. The earliest reference can be traced back to “Su Wen·Zhi Zhen Yao Da Lun”, where it states, “The essence of Jueyin, when severe, enters the spleen, causing food obstruction and vomiting.” The earliest symptoms are mentioned in “Ling Shu”, which states, “In cases of stomach disease, the abdomen is distended, the stomachache is felt in the center, the upper part extends to the flank, the diaphragm and pharynx are obstructed, and food and drink cannot be taken down.” The symptoms described, such as abdominal distension, stomachache, and dysphagia, are related to modern medicine and cancer of the esophagogastric junction and gastric cancer.

3. Analysis of Etiology and Pathogenesis of Gastric Cancer

Traditional Chinese Medicine (TCM) believes that gastric cancer is closely related to the spleen and stomach. As the saying goes, “When vital qi is present, pathogenic factors cannot invade.” When vital qi is insufficient, various diseases begin to emerge. Therefore, the onset of gastric cancer is often attributed to spleen and stomach weakness, as well as internal deficiency of vital qi. Secondly, it is inseparably linked to pathological products such as qi stagnation, phlegm-dampness, and blood stasis. Additionally, emotional factors are another important cause of gastric cancer. Furthermore, factors such as excessive or biased eating, as well as external pathogenic stimuli, can also induce the disease. Therefore, the basic pathogenesis of gastric cancer is the coexistence of intrinsic deficiency and extrinsic excess. The intrinsic deficiency refers to spleen and stomach weakness, and insufficient vital qi, while the extrinsic excess manifests as qi stagnation, blood stasis, and phlegm-dampness condensation. This leads to pathological states such as dysfunction of the middle energizer in digestion and transportation, obstruction of body fluid distribution, and stagnation of qi and blood. It promotes the accumulation of pathological products such as qi stagnation, phlegm-dampness, and blood stasis in internal organs, which intertwine and gradually accumulate over time to form cancerous tumors.

4. Professor Shi Heng-jun's Understanding of Toxic Side Effects after Chemotherapy for Gastric Cancer

Modern medical research suggests that the cytotoxic drugs used in chemotherapy reduce the activity of blood cell precursors in the bone marrow after treatment, leading to insufficient generation of bone marrow stem cells [9]. Professor Shi believes that most cases of bone marrow suppression after chemotherapy are caused by damage to the spleen and stomach, which over time will inevitably affect the physiological functions of the liver and kidneys. As the liver and kidneys are homologous and mutually nourish each other with essence and blood, a deficiency in essence and blood will occur, which can cumulatively affect the bone marrow's hematopoietic function over time. Patients may experience dizziness, fatigue, soreness and weakness in the waist and knees, and their blood routine test results may show a decrease in white blood cells, hemoglobin, and platelets. Therefore, the general principle of treatment should be to strengthen the body's foundation and nourish vital energy.

The main focus is on nourishing qi and blood, as well as nourishing the liver and kidneys. For gastrointestinal reactions after chemotherapy, the current treatment for gastric cancer mainly involves the combination of fluorouracil and platinum-based drugs. Most platinum-based drugs are moderately to highly emetogenic. Although modern medicine has become very specialized in researching chemotherapy-related vomiting and the use of drugs, some patients still experience severe upper gastrointestinal reactions such as nausea, vomiting, and stomach bloating. Based on the clinical characteristics of patients after gastric cancer chemotherapy, these reactions can be classified as “stomachache,” “abdominal fullness,” “stomach bloating,” and “vomiting.” Therefore, Professor Shi believes that the disease location is in the stomach, related to the liver, spleen, and kidneys, and the pathogenesis is a deficiency in the foundation and excess in the superficial manifestation. The deficiency refers to spleen and stomach deficiency, while the excess refers to a mixture of cold and heat, phlegm-damp stagnation, and blood stasis and toxin retention. The basic treatment principle should be to strengthen the body's vital energy and eliminate pathogenic factors. Regarding peripheral neurotoxicity after chemotherapy, Professor Shi believes that based on symptoms and signs, peripheral neurotoxicity after chemotherapy falls under the categories of “arthralgia” and “insensitivity.” The pathogenesis is malnutrition of the limbs, qi and blood stagnation, and depletion of qi and blood. The fundamental deficiency is qi and blood deficiency, while the superficial manifestation is blood stasis and toxin retention. According to “The Complete Medical Encyclopedia of Ancient and Modern Times,” “All numbness is mostly due to the lack of qi and blood reaching the extremities, such as the fingers and toes of the hands and feet, which is why there is often numbness.” Therefore, the main principle of treatment should be to promote blood circulation and dredge meridians [10-11].

5. Selected Medical Records

5.1 Myelosuppression after Chemotherapy

Mr. Li, a 57-year-old male, was initially diagnosed on August 29, 2023. Chief complaint: diagnosed with gastric adenocarcinoma for over 8 months. After multiple cycles of chemotherapy, the patient's blood routine test showed decreased white blood cells and platelets one week after Xelox regimen chemotherapy. The patient experienced fatigue, shortness of breath after activity, listlessness, intermittent palpitations, poor appetite, normal bowel and bladder function, pale tongue with slippery coating and teeth marks, white and thick tongue coating, and thin, rapid, and weak pulse. Western medical diagnosis: 1. Gastric malignant tumor 2. Post-chemotherapy bone marrow suppression (leukopenia, thrombocytopenia). Traditional Chinese medicine diagnosis: Deficiency consumption - blood deficiency (qi and blood deficiency syndrome). Treatment involves nourishing qi and blood, and nourishing the liver and kidneys. The prescription is modified Shiquan Dabu Decoction. Ingredients: 6g cinnamon, 9g licorice, 15g rehmannia glutinosa, 15g ligustilide, 15g angelica sinensis, 15g paeonia lactiflora, 15g red ginseng, 15g atracylodes macrocephala, 20g each of poria cocos and poria cocos, 30g astragalus membranaceus, and 20g yam. The prescription is to be taken for 14 consecutive days, one dose per day, decocted

in water, and taken warm in the morning and evening. After a follow-up visit two weeks later, the patient reported that all symptoms except for the primary tumor had resolved. The patient was advised to continue taking the prescription for another two weeks to consolidate the therapeutic effect. Analysis: Shiquan Dabu Decoction originates from the “Taiping Huimin Heji Bureau Prescription”, and is a classic prescription for treating various conditions caused by qi and blood deficiency.

5.2 Digestive Tract Reactions after Chemotherapy

Zhang, female, 49 years old, first visited on June 16, 2023. Chief complaint: over a year after gastric cancer surgery, seeking for a follow-up examination. The patient is undergoing chemotherapy with the SP regimen. The patient reported recurrent nausea accompanied by vomiting, acid reflux, fatigue, discomfort of abdominal distension, soft and painless upon palpation, retching, intermittent nausea, bitter taste, restlessness, average appetite, dry stool, normal urine, pale tongue, thick and greasy yellow fur, and a moist pulse. Western medical diagnosis: 1. Malignant tumor of stomach 2. Vomiting. Traditional Chinese medicine diagnosis: Abdominal fullness syndrome (cold-heat intermingled syndrome). Treatment involves the concurrent application of cold and heat, promoting the flow of qi with pungent herbs and descending with bitter herbs, and combining reinforcing and reducing treatments. Modified Banxia Xiexin Decoction is prescribed. Prescription: 15g of Pinellia Ternate, 10g of Scutellariae Radix, 15g of Codonopsis Radix, 6g of Rhizoma Coptidis, 6g of Dry Ginger, 15g of Jujube Fruit, 6g of Roasted Gansu, 15g of Semen Raphani, 15g of Fried Malt, 15g of Endothelium Corneum, 10g of Fructus Aurantii Immaturus. One dose per day, decocted in water, taken warm in the morning and evening. The above prescription is given orally one day before the start of chemotherapy, and conventional antiemetic drugs are used in Western medicine. The course of treatment is one week. The patient reported excellent results after this combined chemotherapy session via phone, and regular follow-ups were conducted thereafter. Modified Banxia Xiexin Decoction was combined with chemotherapy for concurrent treatment, with very good results. Analysis. Banxia Xiexin Decoction is derived from Zhang Zhongjing’s “Treatise on Cold Damage and Miscellaneous Diseases,” and is a classic prescription for treating cold-heat intermingled abdominal fullness syndrome. “The Summary of Prescriptions for Vomiting, Diarrhea, and Pulse Syndromes” states: “For vomiting accompanied by bowel sounds and abdominal fullness, Banxia Xiexin Decoction is the main treatment.” The entire prescription combines the use of cold and heat, promoting the flow of qi with pungent herbs and descending with bitter herbs, and combining reinforcing and reducing treatments, thereby achieving the effect of balancing cold and heat, harmonizing the stomach, and resolving phlegm.

5.3 Peripheral Neurotoxicity after Chemotherapy

Ms. He, a 55-year-old female, was initially diagnosed on September 14, 2023. Chief complaint: diagnosed with gastric cancer for 6 months, and numbness and discomfort in the limbs for 3 weeks. The patient underwent DCF chemotherapy, and reported experiencing tingling, numbness, and a sensation

of ants crawling in her hands and feet after 3 cycles of chemotherapy. She also complained of pallor, fatigue, intermittent abdominal distension, soreness in the waist and back, poor sleep, moderate appetite, and normal bowel and bladder functions. Her tongue was pale, dark, and slightly slippery, with tortuous sublingual vessels, white fur, and a thin, rapid pulse. Western medical diagnosis: 1. Malignant gastric tumor 2. Peripheral nerve injury. Traditional Chinese medicine diagnosis: Blood arthralgia (deficiency of both qi and blood, and internal obstruction of blood stasis and toxins). Treatment involves removing pathogenic factors, promoting blood circulation, warming yang, and supplementing qi. Modified Huangqi Guizhi Wuwu Decoction was prescribed. Prescription: Astragalus 30g, Paeonia lactiflora 15g, Cinnamomum cassia twig 10g, Ginger 10g, Dahuang 10g, Red ginseng 15g, Angelica sinensis 15g, Kochia scoparia 10g, Caulis spatholobi 15g, Clematis sinensis 15g, Rehmannia glutinosa 15g, Achyranthes bidentata 10g, Frankincense 15g, Myrrh 15g. One dose per day, decocted in water, taken warm in the morning and evening. Western medicine routinely uses mecobalamin for a 2-week course. The patient reported significant relief of numbness in her hands and feet after taking the medication, and was advised to continue taking the formula for 1 month to consolidate the therapeutic effect. Huangqi Guizhi Wuwu Decoction is derived from “Synopsis of Prescriptions of the Golden Chamber” written by Zhang Zhongjing of the Eastern Han Dynasty. It is primarily used to treat blood arthralgia syndrome, with effects of harmonizing the meridians, promoting blood circulation, warming yang, and supplementing qi. Its combined use of warming, nourishing, promoting, and harmonizing herbs exerts effects of nourishing qi, regulating the circulation of blood and body fluids, and promoting blood circulation to alleviate arthralgia [12].

6. Summary

Professor Shi believes that toxic and side effects such as bone marrow suppression, gastrointestinal reactions, and peripheral neurotoxicity often occur after chemotherapy, and patients with concurrent tumor diseases often present with a variety of intertwined symptoms, greatly increasing the complexity of the disease. During treatment, it is necessary to perform syndrome differentiation and treatment based on symptoms, and to combine modifications and adaptations of famous prescriptions from ancient Chinese medical texts to improve the efficacy of traditional Chinese medicine in treating diseases. At the same time, for such patients, Professor Shi advocates paying attention to the adjustment of constitution, which is also helpful for the treatment of the primary tumor disease. This is worthy of our clinical learning and promotion.

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