Experience of Treating Malignant Tumor with Large Dose of Radix Rehmanniae Praeparata

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Abstract: With more than 30 years of clinical experience, Professor Yang Chenguang is adept at using ancient classical prescriptions as well as high-quality prescriptions inherited by later generations of physicians to treat tumor-related diseases. Rehmannia rehmannia often becomes an indispensable clinical herb because of its efficacy and pharmacological effects, and its importance is self-evident, which is closely related to its main effect of "benefiting the kidney and filling essence". The purpose of this article is to share Professor Yang Chenguang's valuable experience in the clinical use of high-dose Rehmannia in the treatment of tumors and their complications, and to provide valuable reference and enlightenment for clinicians.

Keywords: Radix Rehmanniae Praeparata, Tumor complications, Clinical experience.

1. Introduction

Tumor is considered to be one of the most common diseases in the world at this stage. At present, clinical guidelines for surgical treatment, radiotherapy, chemotherapy and immunotherapy have been recommended for different stages of malignant tumors, and the guidelines will be updated every year according to the research and development progress of clinical tumor drugs. However, the toxic and side effects of these treatments and medications will affect the clinical efficacy. Anti-tumor of traditional Chinese medicine can improve the quality of life and prolong the life of advanced patients by reducing or enhancing the toxicity of radiotherapy and chemotherapy, reducing the inflammatory response around the cancer, and improving the autoimmune function of patients. Professor Yang Chenguang, director of the Department of Oncology, Shaanxi Provincial Hospital of Traditional Chinese Medicine, postgraduate tutor, has many years of clinical experience in the diagnosis and treatment of malignant tumors. He is good at treating tumors and related syndromes with traditional Chinese medicine, and has many years of clinical experience. He has his own unique insights into the treatment of toxic and side effects caused by various treatments and medications. Deeply influenced by Zhang Jingyue and Mingmen theory, he is especially good at using large doses of Rehmanniae Radix Praeparata (up to 120g). Rehmanniae Radix Praeparata is one of the most commonly used traditional Chinese medicines in clinical practice. It enters the liver and kidney meridians, nourishes yin and blood, and replenishes essence and marrow. Modern pharmacology has made it clear that Rehmanniae Radix Praeparata has various effects such as enhancing immunity, anti-oxidation, and enhancing hematopoiesis. Professor Yang Chenguang's clinical experience in the treatment of malignant tumors and their accompanying syndromes with high-dose Rehmanniae Radix Praeparata is summarized as follows.

2. Pathogenesis of Tumor

The earliest written record of tumor is the appearance of the word "tumor" in the oracle bone inscriptions of the Shang Dynasty from the 16th century BC to the 11th century BC [1]. There are also many malignant tumors involved in ancient classical records. The related names include "dysphagia", "Zheng ji", "Chang qin", "Ru yan", etc., which are mostly named after clinical manifestations or etiology and pathogenesis. The standard of syndrome differentiation and treatment of tumor is mature in Treatise on Febrile and Miscellaneous Diseases. There are many records on the etiology of malignant tumors by doctors in the past dynasties, but most of them take deficiency in origin and excess in superficiality as the fundamental pathogenesis, among which the deficiency of the root is the basis. The progressive deficiency of malignant tumor patients is inevitable, or because of old age and body deficiency, or because of long-term illness and body deficiency, deficiency is easy to change. On the basis of this deficiency, cold coagulation, phlegm dampness, blood stasis, internal fire and other pathological products can be formed due to emotional disorders, improper diet and other causes, which stop in the local area and form a mass for a long time. On the contrary, it aggravates the degree of deficiency of the body. All the five zang-organs can be deficiency, especially kidney deficiency. 'Kidney is the congenital foundation'. Kidney essence is the root of life. Kidney essence can transform kidney qi. Kidney qi can be divided into yin and yang. Kidney yin is the foundation of all yin in the human body. Kidney yang is the foundation of yang qi. Yin and yang in the kidney are like water and fire in the kidney. Therefore, Zhang Jingyue's 'Jingyue Encyclopediad in the Ming Dynasty recorded that "kidney is the house of water and fire" and "yin qi of five zang-organs". The yang qi of the five zang-organs, if not this can not hair'.

"Kidney is the foundation of the five zang-organs and six fu-organs. Most of the early symptoms of tumors are hidden in clinical practice. When they are detected, they have entered the middle and late stages. The pathogenic toxin of tumor cells depletes the body, progressive weight loss, unexplained long-term low fever, fatigue, poor appetite, etc., which are non-specific clinical manifestations of tumor patients. Different types of tumors can produce specific etiology, pathogenesis and clinical manifestations. From the dialectical point of view of zang-fu organs, the patients with lung cancer are mostly lung and kidney deficiency in the later stage. The clinical manifestations are cough and hemoptysis, gold and
water can not be born together, mother disease and kidney, kidney failure to accept qi appear in the later stage of breathing more and less, superficial breathing, even acidosis, respiratory failure and other symptoms; most of the patients with liver cancer are liver and kidney deficiency. Such patients may have chronic hepatitis B and cirrhosis in the past. In the later stage, deficiency and failure, dysfunction of kidney governing water, disorder of water metabolism, ascites and jaundice (dull skin color, mainly yin and yellow); most patients with gastric cancer belong to the deficiency of spleen and kidney. "Spleen and stomach are the foundation of acquired constitution, and kidney is the foundation of congenital constitution". The spleen and stomach are not full and damaged, and the patient has poor appetite and even anorexia. At the same time, it can be accompanied by chills, soreness and weakness of waist and knees, cold pain and other symptoms. Breast cancer patients are mostly liver and kidney deficiency, foot Jueyin liver meridian through the milk, patients with emotional intemperance, qi stagnation and blood stasis for a long time into the product, and "kidney main bone ", "bone for the kidney ", so breast cancer patients are prone to metastasis... In summary, most of the common clinical cancer diseases can be based on kidney deficiency, and the deficiency is the pathogenesis.

3. Medication Experience

3.1 Radix Rehmanniae Praeparata is the dried root or fresh processed product of Scrophulariaceae Rehmannia glutinosa [3]. It enters the liver and kidney meridians and has the effects of nourishing yin and blood, replenishing essence and filling marrow. It was first recorded in Bencao Tuing, and it was believed that it had the effects of "tonifying yin and benefiting essence to produce blood" and "Dabu Zhenshui" [4]. It is composed of many commonly used clinical prescriptions in ancient and modern times. It is derived from the Song Dynasty Taiping Huimin Mixture Bureau Prescription. As the "first prescription of gynecology", Siwu Decoction [5] is the first of the prescriptions for nourishing blood and regulating menstruation. It is recorded that the hot dry Rehmannia (wine steaming) is the monarch, the dosage is two yuan, and the blood is nourished by its greasy and thick taste. It is compatible with Angelica sinensis, Paeoniae Radix Alba and a small amount of adjuvant Ligusticum chuanxiong, and the combination of the four drugs plays the role of nourishing blood and regulating blood; as the first prescription of tonifying kidney, " Liuwei Dihuang Pill " has three supplements and three reductions. It is the first recorded in the Key to Therapeutics of Children's Diseases for the first time. It is used to treat kidney aphony, fontanel delay and other diseases, and can also be used to treat children ‘s malnutrition. The Rehmannia decoction recorded in the "Sacred almanac", the four drugs of Rehmannia glutinosa, Morinda officinalis, Cornus officinalis, and Cistanche deserticola are the monarch. It can supplement both yin and yang, benefit the kidney and replenish essence. It is mainly used to treat the "silent heat rash syndrome" of the lower yuan deficiency and the kidney essence can not be glorified in the tongue. The current clinical research of Feng Yan et al. [6] shows that it can be applied to the late yin and yang deficiency of patients with diabetes, and the root deficiency of phlegm turbid internal resistance is solid.

3.2 Rehmannia glutinosa, as one of the commonly used tonifying drugs in clinical practice, modern pharmacological studies have shown that it contains various effective ingredients such as iridoid glycosides, amino acids, phenylethanol glycosides, polysaccharides, and trace elements [3]. It plays an important role in anti-aging, anti-tumor, enhancing immunity, preventing and treating osteoporosis, lowering blood sugar, improving cardiovascular system, sedation and anti-inflammation. As the main active substance of Rehmannia glutinosa, Rehmannia glutinosa polysaccharide has always been one of the hotspots in clinical research on the pharmacology of Rehmannia glutinosa. Yuan Yanyan et al. [7] found that Rehmannia glutinosa polysaccharide had certain antioxidant activity in vitro and showed anti-aging effect on human aging. Rehmannia glutinosa polysaccharide also has a certain anti-tumor effect, mainly by acting on T cells to affect tumor proliferation, differentiation and apoptosis. Cyclophosphamide, as a commonly used chemotherapeutic drug in clinic, will produce immunosuppression after long-term use. It will have great toxic and side effects on normal tissue cells of the body while treating tumors. Xu et al. [8] compared the immunosuppressive mouse model induced by cyclophosphamide with Rehmannia glutinosa polysaccharide. The mice in the model group were in a state of immunosuppression after injection of cyclophosphamide. The mice in the Rehmannia glutinosa polysaccharide group and Astragalus polysaccharide group were better than those in the model group, indicating that Rehmannia glutinosa polysaccharide had a certain regulatory effect on immunosuppression. To a certain extent, the aging of the body is the degradation of the overall function, and the tumor is a manifestation of local tissue cell aging. Rehmannia glutinosa polysaccharide can not only achieve anti-aging effect through anti-oxidation, but also achieve anti-tumor effect through immune regulation. Tumor immunotherapy is a major research hotspot in current tumor treatment. It is hoped that in the future, it will be possible to develop related anti-tumor drugs from Rehmannia glutinosa like the development of Kanglaite Soft Capsules from Coix Seed.

3.3 Ancient physicians have recorded the use of large doses of Radix Rehmanniae Praeparata in clinical practice, especially represented by Zhu Danxi and Zhang Jiebin. Zhu Danxi, the representative of the yin-nourishing school of the four great masters of the Jin and Yuan Dynasties, whose representative prescription Dabuyin Pills in the book Danxi Xinfu fully embodies his own theoretical thought of "Yang is often more than Yin is often less". Dabuyin Pills, also known as "Dabu Pills", Danxi Xinfu contains: "Dabu Pills, lowering Yin fire, tonifying kidney water". It is emphasized that the treatment of yin deficiency and fire heat syndrome by nourishing kidney yin and discharging ministerial fire [9]. The dosage of Rehmannia glutinosa (wine steaming) and tortoise shell (crisp stir-frying) is six liang (now about 223g). The choice of large dose of Rehmannia glutinosa to nourish yin fully interprets its thought, and also brings profound influence to later doctors. Zhang Jingyue was deeply influenced by Zhu Danxi ‘s thought of nourishing yin, and put forward that those who are good at nourishing yin must seek yin in yang, then yin will rise to yang, and the spring source will not be exhausted. There are many prescriptions containing Radix Rehmanniae Praeparata in the book of Jingyue Quanshu. Because of its good use of
Radix Rehmanniae Preparata, known as "Zhang Shudi", Dabuuyuan Decoction is used as a representative prescription for tonifying the array, to treat the bad blood of men and women, and to lose the spirit of danger. This is the first party to praise and save this Peiyuan. Rehmannia glutinosa tonic essence tonic yin, "less with two or three money, more with two or three two "[10], according to the ancient and modern measurement conversion (Jin and Yuan Dynasties 1 qian is about 3.72 g today), the prescription in the amount of cooked land is 74~111g; zuoyougui Pills and other prescriptions that belong to the complement matrix, the amount of Rehmannia up to eight two (nearly 300g); zhang Jingyue believes that the life gate is the Tai Chi of the human body, and Tai Chi generates two instruments, that is, Yin and Yang. "Yang moves and disperses, so it dissolves qi; it is quiet and solid, so it is formed [11]." Yin is the main body and Yang is the main function. Therefore, Mingmen disease advocates tonifying kidney and Mingmen, and creates Zuogui pill, Yougui pill and other classical prescriptions. The reuse of cooked land is to put forward that 'Yin deficiency and God scattered, non-cooked land is not enough to gather; yin deficiency and fire rise, the weight of unripe land is not enough to reduce it; yin deficiency and restlessness, not mature static enough to diagnose it; yin deficiency and urgent, unripe sweet is not enough to slow [12]. After long-term clinical practice, there are some studies on increasing the dose of Shudi in clinical practice.

3.4 Under the summary of many years of clinical work experience, combined with the influence of Zhang Jingyue’s theory of water and fire in Mingmen, Professor Yang Chenguang believes that the late stage of tumor course is mainly based on deficiency. With the progression of the disease or the aggravation of senile deficiency, the body’s viscera deficiency and imbalance of yin and yang, the subtle substances in the body cannot be generated and metabolized normally, and the kidney and Mingmen will be damaged for a long time. Provide tonifying drugs such as Rehmannia glutinosa, Rehmannia glutinosa, and Xiaoyao powder to nourish the kidneys and essence. Clinically, they are commonly treated with modifications such as Liuwei Rehmannia Pill and Xiaoyao Powder. From a holistic perspective, they correct the imbalance between yin and yang while nourishing the essence. "Yin is calm and Yang is secret, and the spirit is the cure." However, because malignant tumors are critical syndromes, large doses can detoxify and increase efficiency, and increase the effect of strengthening the body and eliminating evil, so that it is at a high level. One medicine sets the tone of nourishing yin and filling essence, strengthening the body and resisting evil, improving the body’s physical quality and improving the mental state, and has achieved the purpose of prolonging the survival period.

3.5 The nature of Radix Rehmanniae Preparata is greasy, which hinders the spleen and affects the digestive function. If it is heavily taken for a long time, it should be used with dried tangerine peel and amomum villusom to regulate the spleen and stomach; according to Professor Yang's many years of clinical experience, it is believed that such patients can be given a normal dose of Radix Rehmanniae Preparata at the initial diagnosis, and then the secondary medication can be corrected according to the feedback after the follow-up medication. If the stool becomes loose, the frequency of medication can be reduced (from 2 times / day to 3 times / 2 days) or the Radix Rehmanniae Preparata should be decocted first.

A case is attached below to analyze Professor Yang Chenguang 's experience in using high-dose Radix Rehmanniae Preparata.

4. A Classic Case

This case is a 76-year-old woman with lung cancer after surgery, combined with pharyngeal plump nuclear gas, by using the method of harmonizing liver and spleen, resolving phlegm and regulating qi, pharyngeal obstruction can be improved.

On July 15,2023, Wang, a 76-year-old woman, visited the hospital with the chief complaint of 'nearly 5 months after operation of lung adenocarcinoma and lung carcinoma in situ'.

Current medical history: 2023.01.28 CT examination during physical examination found that: 1.Right lung base mass soft tissue density increased shadow (2.0 * 2.1cm), the hollow shadow, considering the possibility of tumor lesions, it is recommended to puncture; multiple nodules scattered in both lungs, except for metastasis. 2023.02.02 Pathology: 'lung biopsy' very few poorly differentiated adenocarcinoma. 2023.02.06 PET/CT: 1) Cavity nodules in the basal segment of the lower lobe of the right lung, increased glucose metabolism, considering peripheral lung cancer. 2) Two pure ground-glass nodules in the upper lobe of the left lung, the precursor lesion may be observed, it is recommended to observe; the other two lungs scattered in the distribution of small nodules, glucose metabolism did not increase, it is recommended to observe. 2023.02.24 Thoracoscopic radical resection of right lower lobe lung cancer and wedge resection of left upper lobe lung cancer were performed under general anesthesia. 2023.03.03.07 Postoperative pathology showed: right lower lobe lung invasive adenocarcinoma (papillary type accounted for about 70 %, acinar type accounted for 30% with air cavity diffusion, did not invade the lung membrane. pT1cN0Mx Ia3): 'left pulmonary nodule' lung adenocarcinoma in situ, non-mucinous type (a total of 3), all did not invade the lung membrane. Symptoms: throat itching, slightly pharyngeal dumb, throat conscious foreign body sensation, poor swallowing, occasional cough, shortness of breath, good appetite, nocturia 1-2 times, poor stool, still forming. The tongue is light and dark, the moss is thin and white, and the pulse is thin. Past history and other medical history: More than 10 years ago due to glaucoma surgery, thyroid nodules. 2023.07.02 review of the swelling standard showed no obvious abnormality. 2023.07.02 ct: Compared with 2023.04.01, a small amount of pleural effusion on the right side was reduced compared with the previous one, and no obvious tumor lesions were found.

The name of the disease is lung cancer (lung and kidney deficiency syndrome). The patient’s throat is itching when it is not comfortable, slightly mute, and there is a sense of foreign body in the throat. Swallowing is not smooth. It is caused by the disharmony between liver and spleen, the obstruction of qi movement, the imbalance of water and liquid, the accumulation of phlegm, and the obstruction of phlegm.
and qi. In order to reconcile the liver and spleen, Maiwei Dihuang Pill combined with Banxia Houpu Decoction and Xiao Yao Powder were selected.

Prescription: Radix Angelicae Sinensis 20g, Radix Paeoniae Alba 12g, Radix Bupleuri 6g, Poria 15g, Rhizoma Atractylodis Macrocephalae 15g, Radix Glycyrrhizae 6g, Rhizoma Zingiberis 9g, Herba Menthae 3g, Radix Rehmanniae Preparata 60g, Rhizoma Dioscoreae 30g, Fructus Corni 20g, Cortex Moutan 6g, Rhizoma Alismatis 15g, Radix Ophiopogonis 15g, Fructus Schisandrae Sphenantherae 6g, Radix Achyranthis Bidentatae 15g, Rhizoma Pinelliae 9g, Cortex Magnoliae Officinalis 6g, Radix Perillae 9g, Fructus Mume 5g, Fructus Lycii 30g, Fructus Ligustri Lucidi 15g, Scorpion 5g. 7 doses, water decoction, one dose a day.

On July 22, 2023, the second time: the patient complained of frequent shift of vector qi, discomfort in the upper abdomen in the afternoon, slight nausea, and itching and coughing in the throat. Light tongue coating thin white, pulse string thin. Add 6g Fructus Aurantii Immaturus to regulate qi. 14 doses, water decoction, one dose a day.

On August 5, 2023, the third time: the pharynx was more comfortable than before, the sagittal qi was reduced, the sputum volume was reduced, the throat was slightly dry at night, the skill was better than before, and the stomach was occasionally uncomfortable. The tongue is light and dark, the moss is thin and white, and the pulse is thin. Angelica 15g, dried ginger 15g, cooked ground 50g, Ophiopogon 20g. 14 doses, water decoction, one dose a day.

On September 16, 2023, the fourth time: dry throat, slight phlegm, occasional acid reflux, and sometimes urine. The tongue is dark red, the moss is thin yellow, and the pulse is fine. Remove Alisma orientalis, Radix Paeoniae Alba 9g, Radix Serpulhariae 9g, Herba Epimedi 10g, Rhizoma Curculiginis 6g, Radix Codonopsis 30g. 14 doses, water decoction, one dose a day.

On October 14, 2023, the fifth time: the patient feels a little shortness of breath, dry throat, cough is not significant, a little urine leakage, stool adjustment, and can be hardened. 2023.9.26 CT: Absence of the lower lobe of the right lung, reduction of the volume of the upper lobe of the left lung, and dense shadow of the right hilum and the upper lobe of the left lung. Considering the possibility of postoperative changes, please combine the medical history; 2.Right pleural thickening. 3.Aortic and coronary artery calcification; 4.Abnormal density of the right lobe of the thyroid and calcification of the right breast are recommended for further ultrasound examination. 5.Liver cyst may. Prescription: Angelica 15g, vinegar Bupleurum 6g, Poria 15g, bran fried Atractylodes 15g, fried licorice 6g, dried ginger 10g, mint 3g, cooked Rehmannia 50g, bran fried Yam 30g, wine Cormus 20g, Ophiopogon 20g, honey Southern Schisandra 9g, Achyranthes 30g, ginger Pinellia 9g, Lycii Fructus 30g, wine Ligustrum lucidum 15g, Scorpion 5g, Epimedium 10g, Curculigo 6g, Eucommia 30g, Codonopsis 30g, Paeoniae Rubra 6g. 14 doses, water decoction, one dose a day.

On March 16, 2024, the fourteenth time: self-reported cough at night, occasional pharyngeal discomfort, and less phlegm. The tongue is pale red, the moss is thin white, and the pulse string is slightly larger. Auxiliary examination: 2024.03.07 B-ultrasound: thyroid bilobed nodules (TI-RADS class). 2024.03.07 CT: comparison 2023.07.02; a small amount of pleural effusion on the left side was less than before, liver and kidney cysts, and other postoperative changes. The prescription is as follows: Radix Angelicae Sinensis 15 g, Poria 15 g, Rhizoma Atractylodis Macrocephalae 15 g, Radix Glycyrrhiza 6g, Rhizoma Zingiberis 12g, Radix Rehmanniae Preparata 60g, Rhizoma Dioscoreae 40 g, Fructus Schisandrae Sphenantherae 12g, Radix Achyranthis Bidentatae 20g, Rhizoma Pinelliae 9g, Fructus Lycii 30 g, Herba Epimedi 10 g, Rhizoma Curculiginis 6g, Cortex Eucommiae 30g, Radix Codonopsis 30g, Semen Cuscutae 30g, Fructus Lycii 9g, Fructus Mume 10g, stir-fried chicken nugget 15g, Semen Aesculi 10g, Radix Puerariae 30g, Radix Ophiopogonis 15g, Cortex Cinnamomi 5g. 14 doses, water decoction, one dose a day.

The patient is still in outpatient treatment now, still based on the above prescription.

The patient’s performance can be classified as Meiheqi, and the etiology is mostly ‘qi block, phlegm and qi obstruction’. Professor Yang Chenguang recognized the theory that ‘strange diseases have more phlegm’. Phlegm is the normal body fluid of the human body. When the viscera function is dysfunctional and the qi movement is in disorder, the body fluid of the human body cannot be circulated normally. ‘Plain question ‘has a cloud’: ‘where the evil is, the qi will be weak’, and the body fluid is easy to condense in the weak part of the human body, and accumulate into phlegm evil, which accumulates over time and becomes a stubborn and strange disease that is difficult to treat. The abnormal function of the liver leads to the block of qi movement, and the block of qi movement leads to the abnormal operation of the body fluid. The body fluid is condensed into phlegm, phlegm and qi stagnation, and it is easy to block in the throat stenosis with the ascending of qi movement, resulting in symptoms such as foreign body sensation ‘or sticky phlegm and difficult to cough up in the pharynx. The lung is delicate and dirty, and the descending is smooth. The liver governs catharsis and regulates the qi movement of the human body. The qi movement is blood circulation, and the qi is smooth and the phlegm is eliminated. Xiao Yao Powder is used to regulate the liver (qi) and spleen (water metabolism), soothing the liver and relieving depression. Because of the deficiency of both lung and kidney in patients with lung malignant tumors, Maiwei Dihuang Pills were given to nourish the kidney and lung. The dosage of Rehmanniae Radix Praeparata was 60g to detoxify and increase the efficacy, and to increase the strength of strengthening the body and eliminating evil. The treatment of cancer patients should pay attention to the changes of the course of disease and the relationship between evil and positive, and should not blindly attack evil in the whole process. Considering the physical quality of patients can achieve the purpose of alleviating pain, improving the quality of life and stabilizing the condition.

5. Conclusion

There are many kinds of drugs used in traditional Chinese medicine to treat tumors, which can be described as ‘generous’.
In the late stage of malignant tumor, the body's yin and yang are out of balance, pathogenic toxin is endogenous, heat toxin, stasis toxin, phlegm coagulation and water dampness are arbitrarily accumulated in the body to form accumulation of symptoms. Medication should be used to penetrate the disease location, and a large amount of effective special prescription can inhibit tumor and attack cancer. In the Tang Dynasty, Sun Simiao recorded in 'Qianjin Yaofang' 'less medication should be used for mild diseases, and more medication should be used for severe diseases ', which means that the dosage of prescriptions and the number of ingredients should be treated according to the severity of the disease, the length of the course of the disease, and the involvement of the viscera. Therefore, the treatment of large doses of tumor medication is based on history and has been practiced for a long time. Under the influence of the classics of doctors in the past dynasties, combined with his decades of clinical medication experience, Professor YANG increased the dose of cooked ground in the selection of prescriptions based on syndrome differentiation and treatment, and the compatibility of other drugs did not change without strengthening the body resistance. Strengthening the body resistance was especially based on tonifying the kidney, and the whole prescription played the role of strengthening the body resistance and tonifying the deficiency, so that the body of cancer patients had a balance between yin and yang, which could reduce the toxic and side effects of radiotherapy and chemotherapy to a certain extent and prolong the survival period.

References


