

Li Renting's Experience in Treating Cancerous Fever based on the Theory of Deficiency of Healthy Qi

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Abstract: *This paper introduces Professor Li Renting's academic thought and clinical experience of carcinogenic fever based on the theory of deficiency of vital qi. The essence of internal injury fever is the basic pathogenesis of qi and yin deficiency of zang-fu organs, and phlegm, blood stasis, dampness and depression are pathological factors. The treatment should be based on tonifying qi, nourishing yin and strengthening the body, and regulating qi movement. At the same time, the importance of protecting the spleen and stomach was emphasized. According to the clinical experience, Professor Li Renting summarized the self-made prescription of Zhuangshui Chure Prescription, including Radix Pseudostellariae, Radix Glehniae, Rhizoma Polygonati, Dendrobium, Radix Rehmanniae, Cortex Lycii, Fructus Aurantii, Cortex Magnoliae Officinalis, Cortex Moutan, Radix Bupleuri, Radix Paeoniae Alba, Poria and Rhizoma Atractylodis Macrocephalae, which gave full play to the advantages of traditional Chinese medicine in the treatment of cancerous fever.*

Keywords: Cancerous Fever, The Theory of Deficiency of Healthy Qi, TCM.

1. Introduction

Fever due to cancer is one of the paraneoplastic syndromes, which is common in advanced malignant tumors and has a high incidence. It can affect the quality of life and survival time of patients to varying degrees [1,2]. Modern medicine believes that malignant tumor fever is mainly divided into infectious fever and non-infectious fever. Non-infectious fever is cancerous fever. The clinical manifestations are mostly low fever, repeated at night and in the afternoon, while laboratory tests such as white blood cells, neutrophils, and procalcitonin are in the normal range. The treatment is often based on physical cooling, non-steroidal anti-inflammatory drugs, glucocorticoids and other treatments. The treatment has adverse reactions such as peptic ulcer, osteoporosis, elevated blood glucose, and impaired liver and kidney function. The effect of cooling treatment is not ideal and is prone to recurrence [3, 4]. In addition to fever, cancerous fever also has common complications such as fatigue, poor appetite, and poor night rest. Traditional Chinese medicine treatment has the characteristics of holistic concept and syndrome differentiation and treatment. It can be flexibly added and subtracted according to individual differences. Clinical treatment of cancerous fever has the advantages of small side effects and low recurrence rate.

Professor Li Renting is a famous doctor of traditional Chinese medicine in Shaanxi Province, chief physician and postgraduate tutor. Academic leader of national key clinical specialty of traditional Chinese medicine tumor; director of Cancer Hospital of Shaanxi University of Traditional Chinese Medicine; director, Institute of Integrated Traditional Chinese and Western Medicine, Shaanxi University of Traditional Chinese Medicine; director of Department of Oncology, Shaanxi University of Traditional Chinese Medicine; engaged in the clinical practice of integrated traditional Chinese and Western medicine for more than 30 years, he has accumulated rich clinical experience, especially in the aspect of cancerous fever, and the clinical effect is remarkable. The experience of

Professor Li Renting in the treatment of cancerous fever is summarized as follows, in order to provide new ideas for clinical diagnosis and treatment.

2. Etiology and Pathogenesis

Cancerous fever belongs to the category of 'internal injury fever' in traditional Chinese medicine. Ancient physicians have a lot of understanding of the pathogenesis of internal injury fever, emphasizing that fever is related to the profit and loss of healthy qi. In the theory of 'internal and external injury differentiation'[5], he discussed 'blood deficiency fever... This disease is caused by hunger and labor,' and it is believed that diet fatigue, damage of healthy qi, and deficiency of yin and blood can cause fever. In the theory of 'various diseases' [6], it is recorded that 'people with consumptive disease have weak blood gas, deficiency of both yin and yang, small labor generates heat, and heat is caused by labor, so they are famous guests.' It is pointed out that the deficiency of qi and blood, yin and yang is the key to fever.'Suwen · Tiaojing Theory 'Youyun 'has fatigue, less form and qi... The stomach qi is hot, and the heat qi fumigates the chest, so the internal heat is'. It is believed that qi deficiency leads to spleen dysfunction and causes fever. Professor Li Renting believes that the essence of internal injury fever is based on the deficiency of Qi and Yin in the viscera as the basic pathogenesis, and phlegm, blood stasis, dampness and depression are the pathological factors. The pathogenesis of cancerous fever in advanced malignant tumors is mainly based on deficiency, and the prescription of healthy qi not deficiency can keep the body in a balanced state of yin and yang. If the vital qi has been deficient, it is susceptible to pathogenic factors such as exogenous factors, internal injuries, pathological products, etc., resulting in phlegm, blood stasis, dampness, depression, and accumulation of fire, followed by imbalance of yin and yang, which is manifested as fever. According to the fact that patients with advanced malignant tumors are easy to consume qi and damage yin after radiotherapy, chemotherapy, targeted therapy and immunotherapy, Professor Li Renting advocates

that the treatment should be based on tonifying qi and nourishing yin, regulating qi and dredging abdomen.

Modern medicine believes that the pathogenesis of cancerous fever is not clear, which may be related to the following aspects: tumor cell proliferation is too fast, resulting in local tissue ischemia, hypoxia, necrosis and activation of the immune system to cause fever; during the further development of the tumor, it will invade the thermoregulatory center, resulting in fever; a large number of tumor cell necrosis will release a series of active substances such as 5-hydroxytryptamine, catecholamine and tumor necrosis factor, which can act on the body temperature regulation center and increase the body temperature [7]; chemotherapy, radiotherapy, targeted therapy and immunotherapy can also cause fever in the treatment of malignant tumors.

3. Clinical Treatment and Medication Characteristics

3.1 Strengthening the Body, Taking into Account the Evil Spirits

'Suwen · abuse chapter' said: 'Yin deficiency is internal heat'. Zhu Danxi said 'Yin deficiency fever' in 'Ge Zhi Yu Lun · Evil cold non-cold disease Evil heat non-heat disease'... Yin Qi dissipates, Yang has no attachment, and then causes floating between the muscle surfaces and heat. 'For cancerous fever, Professor Li often reuses American ginseng, Digupi and other drugs to replenish qi, nourish yin and clear heat. Modern pharmacological studies have shown that ginsenosides and polysaccharides are the main components of American ginseng, which have significant anti-tumor effects. Among them, ginsenosides Rg3 and Rh2 have the strongest anti-tumor activity [8]. Huang Xiaohong et al [9] found that the antipyretic effect of Cortex Lycii was equivalent to that of aspirin in the study of the effect of Cortex Lycii on the fever induced by carrageenan in rats.

Professor Li Renting considers that if the patient has dry mouth, thirst, dry skin and obvious symptoms of insufficient body fluid, Giza ginseng, Ophiopogon japonicus and Dendrobium can be used to promote body fluid and relieve thirst. If the body fluid is further lost, upset, insomnia, hand-foot-heart heat, hot flashes, night sweats, etc., you must nourish yin and reduce fire, add Shengdi, Xuanshen, Tiandong, Zhimu and other drugs; the patient's spirit is tired and weak, less gas lazy words, pale tongue, weak pulse, fever is not significant can be changed to Codonopsis pilosula, in order to strengthen the spleen and qi righting the work. Evil is the standard, phlegm and blood stasis, Yong curb fever, should take into account the evil, often use Moutan Cortex, Radix Paeoniae Rubra, Pinelliae Rhizoma and other products to promote blood circulation and remove blood stasis, remove phlegm and disperse knots, in order to remove hidden evil.

3.2 Focus on Smooth Air Machine

In clinical practice, Professor Li Renting believes that if liver qi is not dredged and abdominal qi is obstructed, all diseases will be caused. 'Blood syndrome theory · yin and yang water fire qi and blood theory' says: 'blood transport, that is, qi', 'where the qi is, the water is all there', the qi movement is not

adjusted, and the blood and water are not smooth, so it is easy to produce pathological products such as phlegm, dampness, and blood stasis, which is more likely to cause the evil qi to stay in the body, making the course of the disease difficult to heal, and causing all kinds of diseases.

3.2.1 Soothing liver qi to remove heat stagnation

'Blood syndrome theory · visceral pathogenesis theory' cloud: 'liver belongs to wood, wood qi rushes and regulates, does not cause depression, and blood vessels are unobstructed'. The liver governs catharsis, the main regulation of qi movement, liver qi harmony, qi and blood running smoothly, then phlegm and blood stasis are not easy to stick to the viscera and blood vessels, and phlegm and blood stasis do not make heat evil no attachment. Bupleuri Radix has the effect of soothing liver and regulating qi, and its antipyretic effect has also been found in modern pharmacological research. Liu Zhuangzhuang et al [10] found that bupleurum can prevent fever by inhibiting the production of heat-causing factor TNF- α in the circulation and inhibiting the activation of complement toxin C5 a mediated by zymosan.

Therefore, Professor Li often uses Radix Bupleuri and Radix Paeoniae Alba. Radix Bupleuri is pungent and bitter in taste, which is effective in soothing liver and relieving depression. However, it is easy to damage yin and blood due to its divergent taste. It is often combined with Radix Paeoniae Alba, which is bitter and sour in taste, and has the function of nourishing blood, astringing yin and soothing liver. The combination of the two can enhance the effect of soothing liver and regulating qi, and make soothing liver without damaging yin and blood, nourishing yin without leaving hidden evil, nourishing liver and soothing liver, regulating qi movement, so as to dispel depression and heat. If the patient is overheated, gardenia and scutellaria are added to reduce the fire; liver qi stagnation and blood stasis, if the patient has fixed point stabbing pain, and aggravated at night, the tongue is dark or purple, with petechiae, ecchymosis, pulse astringent or knot generation, as the image of blood stasis block, the white peony root is easy to be red peony root, plus cortex moutan, Radix Scrophulariae, Radix Arnebiae, Radix Salviae Miltiorrhizae and other cooling blood and promoting blood circulation; if the symptoms of blood stasis are aggravated, skin numbness, skin nails can be added with leeches, soil turtles and other blood-activating and collateral-dredging products.

3.2.2 Tongfuqi to relieve depression fire

Constipation is a common symptom in patients with advanced cancer. The main reasons [11] are as follows: (1) The application of opioids: Patients with advanced cancer have severe cancer pain. They often use oral or intramuscular morphine drugs to relieve pain. These drugs inhibit intestinal activity, so constipation is a common side effect of morphine drugs. (2) Application of chemotherapeutic drugs: The application of chemotherapeutic drugs can affect gastrointestinal motility and slow down gastrointestinal motility. (3) Application of antiemetic drugs: During chemotherapy, antiemetic drugs are often used to reduce vomiting after chemotherapy. Antiemetic drugs can inhibit gastrointestinal smooth muscle peristalsis and lead to

constipation. (4) Tumorous intestinal space occupying: advanced intestinal metastasis or primary intestinal malignant tumor, which compresses the intestinal canal, leads to mechanical intestinal obstruction, and intestinal contents cannot be successfully excluded. (5) Long-term bedridden patients: advanced cancer patients due to various causes of cancer-related fatigue or organ failure, unable to normal activities, forced to long-term bedridden affect gastrointestinal motility. The five zang-organs are mainly hidden, and the six fu-organs are used for communication. The six fu-organs are blocked, and the dross in the body cannot be discharged, accumulated in the body, and accumulated into heat.

The patients showed bitter taste in the mouth, bad breath, fever, abdominal distension, abdominal discomfort, dry stool, thick and greasy tongue coating, stringy and slippery pulse. Professor Li commonly used *Fructus aurantii*, *Magnolia officinalis*, *Kuanzhong* *Liqi*, *Tongfu* *Xiere*. If the patient's stool was not resolved for many days, it was changed to *rhubarb* and *mirabilite* to strengthen the power of *Tongfu*. After the patient's Yangming dryness was relieved, the disease was stopped, and then *Fructus aurantii* was used to carry out gastrointestinal Qi; if the patient's appetite is poor and the abdomen is full, add *Jiaoshenqu*, *Jiaomaiya*, *Laifuzi* to digestion and stomach, lower qi to remove fullness and distension.

3.3 Emphasizing the Protection of the Acquired Foundation

'Pivot Camp Health Association' said: 'Zhongjiao..... He who receives this qi, secretes dross, evaporates body fluid, transforms its subtlety, pours it into the lung vein, transforms it into blood, and gives it to the whole body.', 'Neijing' cloud: 'If there is stomach qi, it is born, if there is no stomach qi, it is dead. The spleen is the foundation of the acquired, the main transport of diet valley, to generate qi and blood essence micro material nourish the whole body, the stomach is the sea of water valley qi and blood, accept, rotten water valley, if the spleen and stomach damage, lack of qi and blood metaplasia, deficiency of vital qi, vulnerable to the invasion of evil. In the advanced stage of tumor patients, tumor consumption, lack of vitality in the body, chemotherapy, radiotherapy, targeted and immunotherapy damage the middle earth, and cancer fever often uses the positive treatment method of 'cold is hot, hot is cold' to correct the excessive yang qi. Cold and cool drugs are more likely to injure the spleen and stomach in the middle energizer. Zhang Zhongjing, the famous physician, put forward the academic thought of "preventive treatment of disease in the upper work, treatment of disease in the middle work, and treatment of disease in the lower work" in the theory of "Treatise on Febrile and Miscellaneous Diseases." Therefore, Professor Li believes that in order to prevent cold and cold things from damaging the middle yang, it is appropriate to use *Atractylodes macrocephala*, *Codonopsis pilosula*, *Poria cocos*, and yam products to strengthen the spleen and replenish qi, and protect the middle energizer.

4. Typical Medical Cases

Patient Wang, male, 36 years old, was newly diagnosed on November 1, 2023. Main complaint: right lung

adenocarcinoma after more than 6 months, fever for 1 week. The patient was admitted to a top three hospital in Shaanxi Province due to cough and chest pain. Chest enhanced CT showed a solid nodule in the middle lobe of the right lung. Considering peripheral lung cancer, biopsy was recommended. Mediastinal and right hilar lymph node enlargement, considering lymph node metastasis; upper lobe of both lungs, right lung oblique fissure and horizontal fissure nodules (LUNG-RADS2). On April 11, 2023, thoroscopic wedge resection of tumor in the middle lobe of the right lung was performed. Postoperative pathological examination showed adenocarcinoma in the middle lobe of the right lung, pleural malignant tumor, moderately differentiated adenocarcinoma in the middle lobe of the right lung, invasion of the pleura with intravascular tumor thrombus; no tumor thrombus metastasis was found in the cardiac diaphragmatic angle lymph node (1), and cancer infiltration was found in the small fibrous connective tissue, and cancer infiltration was found in the connective tissue (diaphragm, parietal pleura and group 2 lymph nodes). TNM pathological stage: pT3NxM1 stage IV. Immunohistochemistry: CK7 (+), CK20 (-), TTF-1 (+), Mapsina (+), P40 (-), CK5 / 6 (-), P53 (mutant), Ki-67 (+, 70 %), EGFR (SP111) (+), EGFR (SP125) (-), ALK (5A4) (-). Tumor markers: carcinoembryonic antigen: 7.04ng/ml, cytokeratin 19 fragment determination: 3.66ng / ml. Postoperative chemotherapy and targeted therapy were performed. The specific regimen: cisplatin + recombinant human endostatin, a total of 3 cycles, followed by oral administration of osimertinib, a total of 15 days after taking the drug. In June 2023, tumor markers were reexamined: carcinoembryonic antigen: 13.28 ng / ml, cytokeratin 19 fragment determination: 5.56 ng / ml. On June 15, 2023, the chemotherapy regimen was changed to: pemetrexed + cisplatin, a total of 4 cycles. The last chemotherapy time: September 02, 2023. On September 13, 2023, oral osimertinib has been administered so far. After the last chemotherapy, he developed fever, accompanied by severe gastrointestinal reactions. Anti-infective treatment was ineffective in reducing fever. Steroid and non-steroidal anti-inflammatory drugs had repeated effects, so he came for diagnosis. Engraved: fever all over the body, especially at night, body temperature fluctuates between 37.5 °C - 38.5 °C, lack of sleep and weakness, usually irritable, oropharyngeal dryness, palms and soles are prone to fever, occasionally feel the right side of the rib surgery area slightly uncomfortable, poor appetite, difficulty falling asleep, poor night rest, dry stool, 3-4 days a line, urine as usual. The tongue is red, with cracks, tongue edge with tooth marks, less moss, pulse string number. Western medicine diagnosis: postoperative pleural metastasis and lymph node metastasis of lung cancer; TCM diagnosis: lung cancer, fever (liver and spleen imbalance, Qi and Yin deficiency syndrome). The treatment is soothing the liver and strengthening the spleen, tonifying qi and nourishing yin and removing heat. The prescription was modified by Li 's self-made prescription *Zhuangshui Chure* Decoction: *Taizishen* 30 g, *Beishashen* 15 g, *Huangjing* 15 g, *Shihu* 15 g, *Shengdi* 15 g, *Digupi* 15 g, *Zhike* 20 g, *Houpo* 15 g, *Mudanpi* 15 g, *Chaihu* 12 g, *Baishao* 12 g, *Fuling* 15 g, *Baizhu* 15 g, *Zhenzhumu* 15 g, *Suanzaoren* 15 g. A total of 7 doses, 1 dose per day, were decocted twice, each decoction was about 200 mL, taken twice at room temperature in the morning and evening.

On November 8, 2023, the second diagnosis was made. The

patient's self-reported fever symptoms were significantly reduced after taking the drug, the frequency of fever was significantly reduced, and the dryness of stool was significantly improved. The stool is now 2-3 times a day, occasionally loose stools, irritability, oropharyngeal dryness, poor sleep, and hand-foot-heart heat. The previous reduction, fatigue, poor appetite, and occasional discomfort in the right side of the rib surgery area were not relieved. The tongue is reddish, with a small amount of teeth marks on the edge of the tongue, thin white fur and fine pulse. The above prescription was changed to Codonopsis pilosula 20 g, 15 g of coke malt, 15 g of Jiaoshenqu, and 6 g of ginger. A total of 7 doses, the same usage as before.

On November 15, 2023, three diagnoses were made. The patient did not have fever again after taking the above prescription, the symptoms of dry mouth were significantly relieved, the food intake was increased, the stool was normal, one line per day, still weak, occasionally felt a little discomfort in the right side of the ribs, and occasionally saw poor night rest. The tongue is reddish, with a small amount of teeth marks on the edge of the tongue, thin white fur and fine pulse. On the basis of the second diagnosis prescription, the prescription was changed to Dangshen 30 g, Huangjing 20 g, Baizhu 20 g, and removing ginger, a total of 14 doses. The usage was the same as above, and the patients were instructed to avoid wind and cold and adjust their emotions. After 2 weeks of follow-up, the patient did not have fever, and the remaining symptoms were alleviated. Subsequently, the patient returned regularly to correct the remaining symptoms on time. On February 2, 2024, the local hospital examined CT, and the results showed that the lesions were generally stable. The tumor markers were reviewed: carcinoembryonic antigen: 11.27ng / ml, cytokeratin 19 fragment determination: 5.58ng / ml.

Note: The patient in this case was a middle-aged male. After the operation of lung adenocarcinoma, pleural metastasis and lymph node metastasis occurred. The lung cancer patients were based on the deficiency of vital qi, and could not resist the evil, resulting in the accumulation of cancer toxin in the chest. During the operation, the body 's qi and blood were consumed, and the primordial qi was further lost. After the operation, several cycles of chemotherapy and targeted therapy were performed. The targeted drug was heat-toxin because of its nature, and the burning of yin and blood was fever. The patient is usually impatient, and the night is poor, with difficulty in falling asleep, the tongue is red and the pulse is stringy, the liver fire is strong, the liver wood is the spleen, the spleen is the source of the acquired, the source of the transformation of Qi and blood, the spleen is the source of the transformation of Qi and blood, the spleen is the source of the transformation of Qi and blood, the lack of Qi and blood, the poor appetite, do not want to eat, fatigue, heat evil consumption of Yin fluid, resulting in insufficient body fluid, Yin and blood, dry mouth, hand heart, foot heart fever are all signs of Yin deficiency and fire flourishing, dialectical patients with liver and spleen imbalance, Qi and Yin deficiency syndrome. Therefore, the first diagnosis is to benefit qi and nourish yin, soothing liver and invigorating spleen. In the prescription, the prince ginseng replenishes qi and nourishes yin; key drugs for nourishing yin and removing heat of Digupi; beishashen, Shihu, Shengdi Yangyin Shengjin,

Qingxie Xuhuo; radix Bupleuri, Radix Paeoniae Alba, Cortex Moutan combined with soothing liver and softening liver, clearing liver and relieving heat; the patient's stool was dry and the abdominal qi was blocked. In addition, a large number of yin-nourishing drugs were used in this prescription. In order to make this prescription fill but not stagnate, regulate qi and unblock the abdomen, Fructus Aurantii and Cortex Magnoliae Officinalis were used to regulate qi and unblock the abdomen. Poor sleep at night and difficulty in falling asleep are caused by liver fire disturbing the mind and darkly consuming the heart blood. The prescription is to use mother-of-pearl and jujube kernel to calm the liver and subdue yang, nourish the heart and tranquilize the mind to help sleep. Cold drugs are easy to damage the spleen and stomach, with Atractylodes, Poria Jianpi Yiqi; patients with lung cancer have dysfunction of zang-fu organs and deficiency of healthy qi. Huangjing Pingbu lung, spleen and kidney three zang-organs, Yiqi Fuzheng. The patients with second diagnosis had poor appetite and did not want to eat, and used Jiao malt and Jiaoshenqu to digest and appetize; the patient's fever symptoms were significantly reduced and the red tongue was improved. However, after taking the medicine, the patient's stool frequency and loose stools were considered to be weak in the spleen and stomach, and the cold and cool drugs were used. Three patients stool has returned to normal, then go to ginger; still weak, with Codonopsis, Atractylodes, Polygonati Rhizoma to increase the amount of qi and lung, spleen and kidney.

5. Conclusion

Professor Li Renting believes that the deficiency of vital qi is the basis of the disease, and the inability to resist pathogens leads to the intersection of phlegm, blood stasis and dampness to form cancer, which hinders qi movement and is prone to depression and fever. Patients with advanced malignant tumors consume qi, blood and yin fluid for a long time, and the deficiency of qi and yin is further aggravated. Patients often show fever. Therefore, the treatment should be based on tonifying qi, nourishing yin and strengthening healthy qi, and regulating qi movement. At the same time, the importance of solid protection of spleen and stomach is emphasized. Its ideological feature is to emphasize that the treatment should focus on the essence of the disease, adjust the yin and yang of the human body, and also emphasize the principle of protecting the acquired foundation and eliminating the evil without injuring the right, giving full play to the advantages of traditional Chinese medicine in the treatment of diseases.

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