



Research Progress on Classical Prescriptions in Treating Mammary Glands Hyperplasia

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Abstract

Keywords

- mammary glands hyperplasia
- Sini Powder
- Xiao Xianxiong Decoction
- Guizhi Fuling Pill
- Dahuang Zhechong Pill
- Xiao Jianzhong Decoction
- Wenjing Decoction
- Yanghe Decoction

According to Zhongjing Zhang's academic thought, gynecological diseases mostly result from deficiency, accumulated cold, and qi stagnation, so the treatment of gynecological miscellaneous diseases should take qi and blood as the general principle, and focus on the liver. The pathogenesis of mammary glands hyperplasia (MGH) is liver and kidney deficiency, disharmony of the thoroughfare vessel and the conception vessel, the causes of which are emotional imbalance, liver qi depression, and failure of transportation due to spleen deficiency. The superficial causes include qi stagnation, phlegm coagulation, and blood stasis, which are mainly related to the liver, spleen, kidney, the thoroughfare vessel, and the conception vessel. In clinical treatment of MGH, Xiaochaihu Decoction or Sini Powder can be used for qi stagnation syndrome, Xiao Xianxiong Decoction for phlegm coagulation syndrome, Guizhi Fuling Pill or Dahuang Zhechong Pill for spleen deficiency syndrome, and Wenjing Decoction for the deficiency-cold syndrome.

Introduction

Mammary glands hyperplasia (MGH) is a benign comprehensive change of breast tissue characterized by breast pain and lump. It mostly occurs in women aged from 30 to 50, with an incidence of approximately 10%, and the incidence is increasing, accounting for approximately 50% to 70% of breast diseases in gynecology.¹ Endocrine therapy is the main treatment in Western medicine, but its therapeutic effect is not good enough, and side effects like ovarian function impairment, liver and kidney function impairment, nausea, vomiting, and headache are common.² Zhongjing Zhang has unique views and rich experience in treating gynecological diseases. Based on Zhongjing Zhang's academic thought, doctors in different dynasties especially modern times have developed etiology, pathogenesis, syndrome classification, and treatment of MGH. The etiology and pathogenesis of the disease and the differential diagnosis and treatment of it are summarized as follows.

Its Etiology and Pathogenesis in TCM

MGH is called “breast lumps,” “breast masses,” and “breast nodules” in traditional Chinese medicine (TCM). Although breast diseases were not mentioned in Zhongjing Zhang's works, the interpretations of the etiology and pathogenesis of gynecological diseases play a guiding role in the differential diagnosis and treatment of breast hyperplasia by doctors of later generations. “Deficiency accumulation of cold,” and “qi stagnation” are Zhongjing Zhang's summary of the etiology and pathogenesis of the gynecological disease, and the three factors interact as both the cause and the effect.³ “Deficiency” is caused by both congenital deficiency (mainly yang deficiency of spleen and kidney) and acquired factors. When the patient's yang qi is deficient, pathogenic cold forms internally, and cold accumulation in the Zang-Fu organs and meridians further results in qi and blood stagnation. Therefore, “deficiency” is the root of “cold” and “cold” is the result of “deficiency.” If it is not treated timely and

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accurately, “cold” will develop into “cold accumulation.” Deficiency may result in the unsmooth flow of qi while cold may result in qi stagnation. In addition, according to Zhongjing Zhang, gynecological diseases are easily affected by internal injury due to seven emotions,⁴ which lead to disordered free flow of qi governed by the liver, so it comes to qi stagnation.

By inheriting Zhongjing Zhang’s academic thought in gynecology, later physicians come up with ideas on the etiology and pathogenesis of MGH, which play an important guiding role in the syndrome differentiation and treatment of this disease by TCM in modern times. “Breast lump” first appeared in the *Central Treasury Classic (Zhong Zang Jing)*, in which lump means mass. *Definitive Edition of External Medicine to Safeguard Life (Wai Ke Huo Ren Ding Ben)* from the Ming Dynasty relates the tangible things in the breast to the “breast lump” and expounds it.⁵ In *Orthodox Lineage of External Medicine (Wai Ke Zheng Zong)*, “breast lump” refers to breast nodule.⁶ First, it defines breast lump as “it has the shape of an egg, and it may produce descending pain, or it may not develop into disease and the color of skin does not change, and the nodule waxes or wanes with emotional changes.” Second, it describes the main symptoms and manifestations of MGH as “excessive thought impairing the spleen and excessive anger damaging the liver qi leading to depression.” Finally, the etiology and the pathogenesis are summarized related to the dysfunction of the liver and spleen caused by an emotional disorder in women. The liver qi is the congenital root for women, and women are prone to have liver qi depression. Later generations put more emphasis on the qi stagnation on the basis of the three major causes described by Zhongjing Zhang.⁷ Due to the fierce competition in modern society, the increased pressure on women brought by the society and the family often causes liver qi depression, abnormal dispersion dominated by liver, and pain due to obstruction; heat transformed from prolonged depression and phlegm from condensed fluid; exuberant wood subjugating earth or improper diet damaging the spleen, phlegm resulted from the failed transformation of water and dampness due to spleen deficiency, which causes qi stagnation, phlegm coagulation, blood stasis and phlegm obstructed in the breast collaterals and eventually breast lump forms.

MGH is also closely related to the thoroughfare vessel and the conception vessel. The first book that explains the breast lump due to disharmony between the thoroughfare vessel and the conception vessel is *Comprehensive Recording of Divine Assistance* (short form of *Comprehensive Recording of Divine Assistance from the Zhenghe Era*) (*Sheng Ji Zong Lu*). It records: “the thoroughfare vessel and conception vessel are roots of women and if there is disharmony between them... accumulating in the breast, hard or swollen lump with painful nodule will come into being,” which points out that the pathological basis of the disease lies in the disharmony between the thoroughfare vessel and the conception vessel.^{6,8} The normal physiological function of the breast depends on the nourishment of qi and blood, which flows along the meridians and collaterals. The thoroughfare vessel

and the conception vessel take the kidney as the root and they are governed by the liver qi,⁹ so the physiological function and pathological changes of the two vessels are closely related to the liver and kidney. Dysfunction of the liver and kidney, disharmony between the thoroughfare vessel and the conception vessel, stagnation of qi and blood can lead to breast pain and lumps. The relationship between the liver and kidney and the two vessels, the relationship between the kidney and yang qi, the relationship between the liver and qi movement, and their role in the pathogenesis of MGH are consistent with the three pathogenic factors of “deficiency, cold accumulation, and qi stagnation” of gynecological diseases put forward by Zhongjing Zhang.

To sum up, the original cause of MGH is deficiency of the liver and kidney and disharmony between the thoroughfare vessel and the conception vessel. The causes of the disease include emotional disorder, liver qi depression, and disordered transportation due to spleen deficiency. The superficial causes are qi stagnation, phlegm coagulation, and blood stasis, which are mainly related to the liver, spleen, kidney, thoroughfare vessel, and conception vessel. The main clinical syndromes are liver depression and qi stagnation, phlegm coagulation and blood stasis, insufficiency of kidney qi, and disharmony between the thoroughfare vessel and the conception vessel.¹⁰

Its Etiology in Western Medicine

The pathogenesis of MGH is not clear, but the abnormal endocrine system and imbalanced regulation are generally accepted as the pathogenesis in the modern medical field. Some scholars believe that the disorder of estrogen and progesterone secretion and the imbalance between them are related to the pathogenesis of the disease.¹¹ Ovarian endocrine disorders, increased estradiol, or a relative decrease of progesterone and excessive estrogen can cause one or more tissues in the acinar epithelium, ductal epithelium and fibrous connective tissue of the breast to be continuously stimulated by estrogens, making it continue to be in a state of proliferation, and finally form a mass.¹² Therefore, whether it is physiological, mental, or other factors, any factor that can cause changes in sex hormones or their receptors can lead to MGH. With the application of infrared thermal imaging technology, some scholars have found that the mechanism of MGH is related to the abnormal hyperplasia of breast epithelial cells caused by hormone disorder.¹³ Modern studies have found that the hypothalamic-pituitary-gonadal axis is related to the pathogenesis of MGH. The abnormal release of neurotransmitters in women will directly lead to the function imbalance of this hormone axis and eventually lead to MGH.¹⁴ The growth and development of the breast mainly depend on the regulation of sex hormones. The hormone level and sensitivity differences of breast tissue to hormone determine the severity of clinical symptoms of the disease and provide some criteria for the disease grading. According to its severity, MGH is divided into three categories, breast pain, breast adenosis, and cystic hyperplasia in modern medicine. The commonly used classical

prescriptions according to the types and causes of MGH are summarized as follows.

Syndrome Differentiation and Treatment Based on Classical Prescriptions

Qi Stagnation

Xiaochaihu Decoction

Xiaochaihu Decoction, from *Pulse and Syndrome Differentiation of Lesser Yang in Treatise on Cold Damage (Shang Han Lun-Bian Shao Yang Bing Mai Zheng Bing Zhi)*, is the classical prescription for harmonizing lesser yang and has the effect of soothing liver, regulating qi, and relieving depression.¹⁵ Zhu and Han believed that MGH was mostly caused by bad emotions and stagnation of liver qi, and treated 185 patients with MGH with Xiaochaihu Decoction and Gongjian Decoction receiving the cure rate of 48.1%, the markedly effective rate of 42.16%, the improvement rate of 7.7%, and the ineffective rate of 2.16%.¹⁶ It is proved that Xiaochaihu Decoction can treat both manifestations and root causes of MGH. Liu and Sun observed the therapeutic effects of Xiaochaihu Decoction and Wendan Decoction on MGH in mice.¹⁷ The results showed that the prescription could regulate the hormone level of mice with MGH and treat the breast hyperplasia caused by estrogen. It is proved that Xiaochaihu Decoction can be used to treat MGH.

Sini Powder

Sini Powder from *Pulse and Syndrome Differentiation of Lesser Yin in Treatise on Cold Damage (Shang Han Lun-Bian Shao Yin Bing Mai Zheng Bing Zhi)*, mainly treats reversal cold syndrome due to yang depression and liver-spleen qi depression syndrome, and it has the effect of relieving depression and expelling pathogen, soothing liver and regulating spleen.^{18,19} Liu treated a married and procreated woman with MGH due to liver qi depression by using Sini Powder. The patient's mass disappeared after 1 month of treatment.²⁰ Wen treated 30 MGH patients with oral Jiawei Sini Powder combined with processed Shanjia (pangolin scales).²¹ The results showed that 86.67% of the patients were cured. It is proved that Sini Powder is effective in the treatment of MGH caused by stagnation of liver qi or intermingled phlegm and blood stasis.

Phlegm Coagulation

Xiao Xianxiong Decoction from *Pulse and Syndrome Differentiation of Greater Yang in Treatise on Cold Damage (Shang Han Lun-Bian Tai Yang Bing Mai Zheng Bing Zhi)*, mainly treats the minor chest obstruction syndrome with accumulated phlegm-heat in the chest and has the effect of resolving phlegm and clearing heat, soothing chest, and dissipating stagnation.²² Sun treated an MGH patient exhibiting excessive suspicion, manifested by qi stagnation, phlegm accumulation transforming into heat, and blood stasis in the breast.²³ Xiao Xianxiong Decoction combined with Chinese medicinals of moving qi and activating blood, dredging channels, and dispelling stasis was used to clear heat and

soothe the chest, resolve phlegm and dissipate stagnation, and it achieved good effects.

Blood Stasis

Guizhi Fuling Pill

Guizhi Fuling Pill from *Pulse and Syndrome Differentiation of Pregnant Women in Essentials from the Golden Cabinet (Jin Gui Yao Lue-Fu Ren Ren Shen Bing Mai Zheng Bing Zhi)*, mainly treats mass in the abdomen and has the function of activating blood and resolving blood stasis, harmonizing qi and blood, alleviating swelling and dissipating stagnation.^{24,25} Liu et al obtained the intersection target genes by searching the related targets of the composition of Guizhi Fuling Pill and MGH, and performed molecular docking through relevant software, and found that Guizhi Fuling Pill may produce the effect of resolving masses through some pathways and targets in the treatment of MGH.²⁶ In an experiment, Dong explored the efficacy of Guizhi Fuling Pill in the treatment of MGH of liver depression and kidney deficiency pattern.²⁷ He randomly divided 60 patients with MGH into control group treated with axillary acupuncture, and observation group treated with Guizhi Fuling Pill on the basis of acupuncture. The results showed that acupuncture combined with Guizhi Fuling Pill could treat the hormone imbalance.

Dahuang Zhechong Pill

Dahuang Zhechong Pill from *Pulse and Syndrome Differentiation of Blood Impediment and Consumptive Disease in Essential from the Golden Cabinet (Jin Gui Yao Lue-Xue Bi Xu Lao Bing Mai Zheng Bing Zhi)*, mainly treats blood dryness and consumptive disease and has the effect of breaking and removing blood stasis, dredging channels and dissipating stagnation.²⁸ Zhang et al found that the efficacy of Dahuang Zhechong Pill combined with Danlu Capsule in the treatment of MGH was significantly better than the control group treated with Western medicine alone through experiments.²⁹ It is proved that Dahuang Zhechong Pill has a remarkable curative effect and high safety, and it can shorten the treating time and reduce the cost, so it is worth using widely.

Spleen Deficiency

Xiao Jianzhong Decoction recorded in *Treatise on Febrile Diseases (Shang Han Lun)* and *Essential from the Golden Cabinet (Jin Gui Yao Lue)*, mainly treats the syndrome of deficiency-cold middle energizer and liver-spleen disharmony, which has the effect of warming the middle energizer, tonifying deficiency, and relieving pain. According to Huang Huang's classification of the constitutions, most of the women with a thin body, not plump breast, dry and dull skin, belong to the constitution of Xiao Jianzhong Decoction and Xiao Jianzhong Decoction can be used. The use of Xiao Jianzhong Decoction opens a new idea for us to select corresponding prescriptions for the treatment of MGH according to the classification of the constitutions.³⁰

Cold Deficiency

Wenjing Decoction from *Pulse and Syndrome Differentiation of Miscellaneous Diseases of Women in Essential from the Golden Cabinet (Jin Gui Yao Lue-Fu Ren Za Bing Mai Zheng Bing Zhi)*, mainly treats the menstrual disease due to cold deficiency of the thoroughfare vessel, conception vessel, and blood stasis and has effects of warming the meridians, dispelling cold, removing stasis, and promoting the production of blood.³¹ Zhaojun Jiang used Wenjing Decoction combined with Yanghe Decoction to warm yang, dissipate cold, and regulate the thoroughfare vessel and conception vessel to treat MGH patients with cold deficiency of the thoroughfare vessel and conception vessel, and achieved good effects.³² Therefore, Wenjing Decoction can be used to treat MGH due to cold coagulation in meridians and obstruction due to blood stasis.³³

Conclusion

According to Zhongjing Zhang's academic thought, gynecological diseases mostly result from deficiency, accumulated cold, and qi stagnation, so the treatment of the diseases should take qi and blood as the general principle, and focus on the liver. For MGH, the causes associated with the liver mainly include liver depression and qi stagnation, as well as liver cold and blood coagulation. Clinically, breast pain is related to emotional changes, generally without obvious organic lesions, while breast adenosis and cystic hyperplasia have organic lesions in the breast. Treatment of MGH based on syndrome differentiation can be achieved by applying classical prescriptions. Breast pain can be treated by regulating emotions, soothing the liver, and regulating qi by Xiaochaihu Decoction Sini Powder etc.; breast adenosis and cystic hyperplasia can be treated by resolving phlegm and dissipating blood stasis to treat the organic diseases by Xiao Xianxiong Decoction Guizhi Fuling Pill Dahuang Zhechong Pill and so on. Pathological changes of the spleen and stomach, and yang deficiency and cold coagulation can affect the normal physiological function of qi and blood, which can be seen in different types of MGH and can be treated by Xiao Jianzhong Decoction and Wenjing Decoction.

In conclusion, with increasing attention paid to the in-depth study by scholars, the use of classical prescriptions for the syndrome differentiation and treatment of MGH guided by Zhongjing Zhang's academic thought will present a broader prospect.

Credit Authorship Contribution Statement

Xin Jiang: Collection and analysis of relevant literature, and writing original draft. **Zhenliang Wang:** Conceptualization, methodology, and writing—review & editing.

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Conflict of Interest

The authors declare no conflict of interest.

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