

A Case Study on the Treatment of Obesity-type Polycystic Ovary Syndrome with Zhuang Medicine Mao Xia Yin

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Abstract: As an important branch of traditional medicine, Zhuang Medicine is renowned for its unique prescriptions and techniques in clinical treatment, with significant therapeutic effects and widespread popularity. This article introduces Professor Fang Gang's experience in treating obesity-type polycystic ovary syndrome (PCOS) with modified Zhuang Medicine Mao Xia Yin. Professor Fang Gang proposes that the etiology and pathogenesis of obesity-type polycystic ovary syndrome (PCOS) primarily stem from spleen deficiency, which impairs the transport of water and dampness. This dysfunction leads to the accumulation of dampness that transforms into phlegm. Over time, the stagnation of phlegm and dampness generates internal heat, resulting in the formation of "dampness toxin," "phlegm toxin," and "heat toxin." These pathological toxins obstruct the circulation of Qi and blood, causing stasis and the emergence of "stasis toxin." The buildup of these toxins ultimately blocks the three channels and two pathways, disrupting the harmony among the three Qi of heaven, earth, and man. This disharmony culminates in impaired uterine gland function. Therefore, the treatment mainly focuses on tonifying deficiency, detoxifying, and regulating Qi.

Keywords: Zhuang Medicine Mao Xia Yin; Obesity-type polycystic ovary syndrome; Case study

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1. Introduction

Polycystic ovary syndrome (PCOS) is a common gynecological endocrine and metabolic disorder characterized by abnormally elevated androgen levels, ovulatory dysfunction, and menstrual irregularities. It is often accompanied by infertility, insulin resistance, and obesity etc., which has a great impact on female reproductive health and psychological status^[1]. Western medicine treatment primarily focuses on regulating menstrual cycle, reducing androgen levels, improving insulin resistance, and promoting ovulation. While these approaches yield

rapid effects, they are limited by significant side effects and high recurrence rates^[2]. In recent years, traditional medicine and ethnic medicine have shown unique clinical advantages in the treatment of PCOS. Professor Fang Gang has been engaged in clinical research in obstetrics and gynecology for more than ten years, and has accumulated rich experience in the diagnosis and treatment of PCOS. His application of Zhuang Medicine Mao Xia Yin has achieved remarkable therapeutic efficacy in treating obesity-type PCOS. Through a typical case analysis, this article discusses the clinical diagnosis and treatment thoughts of PCOS and the clinical application value of Zhuang Medicine Mao Xia Yin.

2. Etiology and pathogenesis of PCOS in Zhuang Medicine

Although the term “polycystic ovary syndrome (PCOS)” is not found in the ancient books of Zhuang medicine, its clinical manifestation such as oligomenorrhea, decreased menstrual flow, and amenorrhea are consistent with the category of menstrual diseases such as Yuejingluan (menstrual disorder) and Jingse (amenorrhea) in Zhuang medicine^[3]. Meanwhile, according to the ultrasonic characteristics of the polycystic changes of the ovary, PCOS can be classified into the category of Peixibing (Baezci)^[4]. In Zhuang medicine, the uterus is referred to as Mihuachang, which belongs to the female reproductive system^[5]. The physiological functions of the Mihuachang (uterus) depend on the synergistic interactions among Zang-Fu organs (Dong), Qi and blood (Xule), and muscle and bone (Duonuo), as well as unobstructed flow of the three pathways (including Gudao, grain pathway; Qidao, Qi pathway; and Shuidao, water pathway), and two vital networks (including Longlu, dragon network; and Huolu, fire network). Zhuang Medicine believes that toxins and deficiencies are the root cause of all diseases^[6]. The core pathogenesis of PCOS is the exuberance of pathogenic toxins, deficiency of healthy Qi, obstruction of three pathways and two vital networks, as well as disharmony of Qi and blood. Congenital constitutional weakness or decline in Zang-Fu organ functions in women are prone to invasion of exogenous toxins or endogenous pathogenic toxins, leading to deficiency-excess syndrome, where healthy Qi is deficient and toxins are excessive. This triggers a struggle between healthy Qi and pathogenic factors, disrupting the interaction between Qi and blood, which manifests as an imbalance of Qi and blood, obstruction of three pathways and two vital networks, ultimately leading to dysfunction of the Mihuachang. Therefore, the treatment principles should focus on detoxification, tonifying deficiency, unblocking the three pathways and two vital networks, as well as harmonizing Qi and blood^[7].

3. Diagnosis and treatment thoughts of PCOS

Western medicine primarily focuses on oral medications in treating PCOS. While these drugs act rapidly, they have obvious side effects and high recurrence rates. Zhuang medicine emphasizes regulation of holism to address the root causes of PCOS. Meanwhile, Zhuang medicine primarily utilizes natural herbs, demonstrates high safety and achieves comprehensive therapeutic effects by regulating endocrine function, improving metabolism, and promoting ovulation through multi-target mechanisms. For patients with insulin resistance, diabetes mellitus, or hyperandrogenism, integrated Zhuang and Western medicine can be adopted to give full play to the advantages of both^[8].

Professor Fang Gang believes that the etiology and pathogenesis of PCOS is primarily deficiency-excess in complexity. The pathogenic excess belongs to Yang syndrome, e.g., dampness toxin, stasis toxin, phlegm

toxin, and heat toxin, while the healthy Qi deficiency belongs to Yin syndrome, characterized by insufficiency of healthy Qi. Meanwhile, females are susceptible to emotional disturbances. Emotional disharmony is also a significant contributing factor in disease onset^[9]. Therefore, the treatment of PCOS with Zhuang Medicine should focus on tonifying deficiency, removing toxin, and regulating Qi.

Wan's Gynecology: Regulation of Menstruation (Wan Shi Fu Ren Ke Tiao Jing) states, "In obese women with scanty menstruation, the condition is attributed to obstruction of the meridians by phlegm-dampness." Obesity-type PCOS is mostly due to constitutional Milong (spleen) deficiency, or improper diet, lack of exercise, or imbalance between work and rest, which damages the Milong, leading to Milong dysfunction, phlegm-dampness retention, stagnated phlegm-dampness transforming into heat, endogenous dampness-phlegm-heat toxin, and obstructed Xu (Qi) and Le (Blood) forming into stasis toxin. Accumulation of toxin pathogens obstruct the three pathways and two vital networks, leading to disharmony of triple qi (heaven-earth-human) and dysfunction of Mihuachang. The accumulation of phlegm-dampness toxins in the body may manifest as obesity. The congestion of phlegm-dampness-heat toxins in the body may manifest as acne. The obstruction of phlegm or stasis toxin in the ovary may manifest as polycystic ovarian changes.

Based on Zhuang medicine theory and the etiology-pathogenesis of obesity-type PCOS, Professor Fang Gang develops Zhuang Yi Mao Xia Yin through years of clinical practice." The formula is composed of Wu Zhi Mao Tao (*Ficus Hirta Root*), Ban Xia (*Pinelliae Rhizoma*), Xiang Fu (*Cyperus Rhizoma*), Cang Zhu (*Atractylodes Rhizoma*), Bai Shao (*Paeoniae Radix Alba*), Guang Shan Zha (*Crataegus pinnatifida*), Hu Lu Cha (Bottle Gourd Tea), Ji Xue Teng (*Spatholobus suberectus*), Long Xue Jie (*Dracaena*), and has actions of tonifying Milong (spleen) deficiency and regulating Xu (Qi), dispelling phlegm and removing dampness, dredging Longlu and Huolu, as well as regulating menstruation. Administration includes decocting in water, 1 dose daily, taken warmly after breakfast and dinner, discontinued during menstruation.

In this formula, Wu Zhi Mao Tao (*Ficus Hirta Root*) and Ban Xia (*Pinelliae Rhizoma*) tonify Milong (spleen) deficiency, remove dampness-phlegm toxins, tonify Xu (Qi), and dredge water pathway, serving as the main medicinal. Xiang Fu (*Cyperus Rhizoma*) regulates Xu (Qi), dredges Longlu, eliminates stagnation, regulates menstruation and stops pain. Guang Shan Zha (*Crataegus pinnatifida*) tonifies Milong and replenishes Dong (stomach), regulates Xu, transforms turbidity and reduce blood lipid and blood sugar, dredges Longlu, and regulates Gudao. Bai Shao (*Paeoniae Radix Alba*) nourishes Le (blood) and regulates menstruation, emolliates Midie (liver) and stops pain. Cang Zhu (*Atractylodes Rhizoma*) tonifies Milong, eliminates dampness toxin, and dredges water pathway. Ji Xue Teng (*Spatholobus suberectus*) tonifies Le (blood), eliminates dampness toxin, regulates Longlu and Huolu. Hu Lu Cha (Bottle Gourd Tea) dredges grain pathway and water pathway, eliminates dampness toxin, and reduces blood lipids. Long Xue Jie (*Dracaena*) dredges Longlu, regulates Qi pathway, tonifies Mixintou (heart) and nourishes Le (blood), eliminates stasis toxin and regulates menstruation, reduces blood lipid and blood sugar; all the above serving as the assistant medicinals. This formula simultaneously addresses both deficiency and excess through tonifying deficiency, removing toxin, and regulating Qi, to achieve the effect of tonifying Milong (spleen) and regulating Xu (Qi), dispelling phlegm and removing dampness, dredging two vital networks and regulating menstruation, thus ensuring a unobstructed flow of three pathways and two vital networks, as well as harmony of triple Qi (heaven-earth-human).

4. Case study

4.1. General Information

A 35-year-old female, Ms. Jiang, first presented to the clinic on November 29, 2023, with a chief complaint of amenorrhea lasting over two months.

4.2. Menstrual and obstetric history

- (1) Menarche: Age 13
- (2) Last Menstrual Period (LMP): September 18, 2023
- (3) Cycle Length: 30–60 days
- (4) Menstruation Duration: 6–7 days
- (5) Characteristics: Scanty dark-red menstrual flow with clots; accompanied by dysmenorrhea
- (6) Marital Status: Married, sexually active, history of contraceptive use

4.3. Presenting symptoms

At present, the patient presented with excessive phlegm in the throat, fatigue, normal appetite, poor sleep with dreaminess, normal urination, and initial dry stools followed by loose stools. The tongue was enlarged with teeth marks, light in color, with a white and greasy coating. The pulse was wiry and slippery. The patient also presented with scattered facial acne, obesity, recent emotional irritability, and high work-related stress.

4.4. Anthropometric data

- (1) Height: 159 cm
- (2) Weight: 63 kg
- (3) BMI: 24.92kg/m²

4.5. Auxiliary examination

- (1) HCG: Negative
- (2) Six test items of sex hormones: FSH: 12.16mIU/mL; LH: 57.61mIU/mL; E2: 352pg/mL; P: 1.00ng/mL; T: 3.11nmol/L; PRL: 10.48ng/mL.
- (3) Gynecological ultrasound: endometrial thickness 7 mm; polycystic changes in the bilateral ovaries.

4.6. Diagnoses

- (1) Zhuang medicine diagnosis: Yuejingluan (Yin syndrome complicated with Yang syndrome)
- (2) Chinese medicine diagnosis: Menstrual disorder (Spleen deficiency with phlegm-dampness syndrome)
- (3) Western medicine diagnosis: Polycystic ovary syndrome (PCOS)

4.7. Treatment

- (1) Modified Zhuang Medicine Mao Xia Yin measurements

The formula is composed of Wu Zhi Mao Tao (*Ficus hirta* Root), 40 g; Ban Xia (*Pinelliae Rhizoma*), 12 g; Xiang Fu (*Cyperus Rhizoma*), 12 g; Cang Zhu (*Atractylodes Rhizoma*), 9 g; Bai Shao (*Paeoniae Radix Alba*), 10 g; Guang Shan Zha (*Crataegus pinnatifida*), 10 g; Hu Lu Cha (*Bottle Gourd Tea*), 10 g; Ji Xue Teng (*Spatholobus suberectus*), 9 g; Long Xue Jie (*Dracaena Resin*), 3 g; Bai Zhi (*Angelica*

dahurica Root), 9 g; He Huan Hua (*Albizia Flower*), 12 g; Zhu Fu Shen (*Poria Root Bark*), 15 g; and Ye Jiao Teng (*Polygonum multiflorum Stem*), 25 g.

(2) Administration

One dose/day, decocted in water and taken warm after breakfast and supper for 7 days.

(3) Additional therapy

Progesterone capsules during the luteal phase.

(4) Lifestyle advice

Weight loss, blood sugar control, emotional regulation, and sufficient rest.

4.8. Follow-up visitations

(1) Second visit (December 11, 2023)

Day 1 of menstruation. Sleep quality has improved compared to the previous visit. Scattered facial acne remained. The tongue was enlarged with teeth marks, light in color with white and greasy coating. The pulse was wiry and slippery. Treatment: The initial prescription was continued for 14 doses, taken after menstruation ends, but it is combined with Diane-35 treatment. The patient is instructed to control blood sugar and lose weight, regulate emotions, and ensure adequate rest.

(2) Third visit (December 31, 2023)

Weight decreased by 2 kg. The last menstrual period was on December 11, 2023. Slightly heavier flow with dark-red clots and mild dysmenorrhea. Normal appetite and sleep, normal urination and bowel movements. Facial acne has decreased. The tongue was enlarged with teeth marks, light in color, with a white coating. The pulse was wiry. The diagnosis remained unchanged. Treatment: The previous prescription was adjusted by changing the dosage of Bai Shao to 15g, Ji Xue Teng to 12g, and removing He Huan Hua, Zhu Fu Shen, and Ye Jiao Teng, 14 doses. The method of administration remained the same as before and combined with Diane-35 treatment. The patient is instructed to control blood sugar and lose weight, regulate emotions, and ensure adequate rest.

(3) Fourth visit (February 1, 2024)

Weight decreased by 2.5 kg. The last menstrual period was January 6, 2024. Normal volume, red color, no significant blood clots, no dysmenorrhea. Normal appetite and sleep, normal urination and bowel movements. No noticeable facial acne. The tongue was light in color with teeth marks and thin white coating. The pulse was wiry. The diagnosis and treatment remained unchanged. The patient is instructed to control blood sugar and lose weight, regulate emotions, and ensure adequate rest.

(4) Fifth visit (February 29, 2024)

Weight decreased by 1 kg, with the current weight being 57.5 kg and the BMI is 22.74. The last menstrual period was on February 28, 2024. Normal volume, red color, no blood clots, no dysmenorrhea. Normal appetite and sleep, normal urination and bowel movements. No noticeable facial acne. The tongue was light in color with teeth marks and thin white coating. The pulse was wiry. The diagnosis remained unchanged. The results of the six test items of sex hormones were: FSH: 5.50 mIU/mL, LH: 6.35 mIU/mL, E2: 21 pg/mL, P: 0.50 ng/mL, T: 1.08 nmol/L, PRL: 10.26 ng/mL. Treatment: The 3-month menstrual cycle therapy was completed, and Diane-35 was discontinued. The previous Zhuang medicine prescription was continued for 14 doses to consolidate the treatment. The method of administration remained the same as before.

At the six-month follow-up visit, the patient reported regular menstrual cycles with normal flow volume, color, and quality, no dysmenorrhea, and no significant changes in body weight.

5. Analysis of case study

This case involves a patient with obesity-type PCOS, which was diagnosed as Yuejingluan-Yin syndrome (Milong deficiency) complicated with Yang syndrome (dampness toxin, phlegm toxin, heat toxin, stasis toxin). At the initial visit, the patient presented with amenorrhea for over 2 months. Zhuang Medicine Mao Xia Yin was prescribed to tonify Milong (spleen) and regulate Xu (Qi), dispel phlegm and remove dampness, dredge the two vital networks (Longlu and Huolu), nourish Le (blood) and regulate menstruation, to stimulate menstrual flow. For facial acne, poor sleep, and excessive dreaming, Bai Zhi was added to reduce acne; He Huan Hua was added to relieve depression and calm the mind; Zhu Fu Shen was added to settle the heart and calm the mind, replenish Qi and invigorate spleen, as well as promote urination; Ye Jiao Teng was added to nourish the heart and calm the mind. It was combined with progesterone capsules treatment during the latter half menstrual cycle to induce menstrual flow and regulate endocrine function.

At the second visit, the menstruation arrived, sleep quality improved, yet acne persisted. Tongue and pulse patterns were the same as before, indicating incomplete resolution of phlegm and dampness. Thus, the original Zhuang medicine prescription was maintained. Elevated LH/FSH ratio and hyperandrogenism were noted. Diane-35 therapy was combined to regulate the hormones. At the third visit, based on the patient's symptoms, signs, and tongue/pulse patterns, phlegm and dampness were gradually resolved, Qi and blood were improved. The dosage of Bai Shao and Ji Xue Teng were increased to nourish blood and regulate menstruation, activate blood and resolve stasis, and stop pain. After the sleep was normal, He Huan Hua, Zhu Fu Ling, and Ye Jiao Teng were removed to simplify the formula to focus on the therapeutic efficacy. The Western medicine prescription remained unchanged. At the fourth visit, the body weight was reduced, and the symptoms were improved, indicating further resolution of phlegm-dampness and progressive harmonization of Qi and blood. The third-visit Zhuang medicine and Western medicine prescriptions were continued. At the fifth visit, the patient exhibited resolved phlegm-dampness and restored Qi-blood harmony based on symptoms, signs, and tongue and pulse patterns.

The six test results of the tested sex hormones showed LH/FSH ratio normalized, androgen levels decreased, endocrine balance achieved, BMI reduced to normal limits, with significant efficacy. At six-month follow-up visit, the patient reported regular menstrual cycles with normal volume, color, and quality, absence of dysmenorrhea, stable body weight, and significant improvement in quality of life. This suggested that Zhuang Medicine Mao Xia Yin combined with Diane-35 can effectively improve the clinical symptoms and demonstrates favorable long-term efficacy in patients with obesity-type PCOS. In addition, lifestyle optimization plays an indispensable role in disease management and cannot be overlooked.

6. Conclusion

The Zhuang Medicine Mao Xia Yin, developed by Professor Fang Gang through years of clinical practice, is an empirical formula rooted in the basic theory of Zhuang Medicine for treating obesity-type PCOS. Professor Fang believes that the common pathogenesis of obesity-type PCOS is primarily Yin syndrome (Milongxu,

spleen deficiency) complicated with Yang syndrome (dampness toxin, phlegm toxin, heat toxin, and stasis toxin). The clinical presentation typically includes menstrual disorders, obesity, and excessive leukorrhea etc. The treatment should focus on invigorating Milong (spleen) and removing dampness toxin, regulating Xu (Qi) and resolving phlegm toxin, activating Le (blood) and resolving stasis toxin, tonifying deficiency, and regulating menstruation. The formula is modified based on individual symptoms, signs, and fertility needs. Emphasis is placed on the holism concept, integrating the characteristics of the menstrual cycle, emotional regulation, and lifestyle modifications to fully leverage the unique therapeutic advantages of Zhuang medicine. This case study provides new thoughts and approaches for the treatment of obesity-type PCOS.

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Disclosure statement

The authors declare no conflict of interest.

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