

Research Progress on External Treatment of Premature Ovarian Failure in Traditional Chinese Medicine

Zhao Jialei^{1,a}, Xiao Xinchun^{2,b,*}

¹*Shaanxi University of Chinese Medicine, Xianyang, Shaanxi, 712046, China*

²*Affiliated Hospital of Shaanxi University of Chinese Medicine, Xianyang, Shaanxi, 712000, China*

^a*zjl3239946323@qq.com*, ^b*xxchsd2003@163.com*

**Corresponding author*

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Abstract: Premature ovarian failure is one of the major gynecological diseases that seriously affects the life and health of women. TCM has significant advantages and effects in the treatment of premature ovarian failure. TCM uses such as herbal topical application, herbal fumigation, herbal enema, Acupuncture, moxibustion, massage and other external Chinese medicine treatments for premature ovarian failure. It can not only cure the disease more effectively, but also improve the patient's quality of life.

1. Introduction

Premature ovarian failure (POF) refers to a gynecological disease caused by certain factors leading to premature ovarian failure and decreased function before the age of 40, with continuous amenorrhea for more than 6 months, often accompanied by perimenopausal symptoms [1]. The incidence of POF is approximately 1% in the general female population, up to 10% in women with primary amenorrhea, and 4% to 18% in women with secondary amenorrhea [2]. There are no definitive conclusions about the pathogenesis of POF. The causes of POF are complex and varied, and some studies have revealed that it may be related to genetic factors, immune factors, enzyme deficiencies, drug side effects, and other factors. Clinically, Western medicine is mainly based on hormone replacement therapy, but the therapeutic effect is not ideal, there are certain side effects, and the condition is prone to relapse after treatment. Patients are severely repulsed by their side effects. TCM has significant advantages in the treatment of premature ovarian failure. TCM adopts the treatment methods of internal Chinese medicine and local external treatment, which can not only assist Western medicine to improve clinical efficacy, alleviate the side effects of hormone drugs and increase the recovery rate of patients with POF, but also improve the quality of life of patients.

The name of the disease "POF" has not been recorded in the ancient Chinese medical books, but from the similarity of clinical symptoms, it can be categorized as "amenorrhea", "premature menstruation" and "non-lunar" and other diseases. Such as the "Emperor's Inner Canon- Suwen" for the first time put forward the early decline, "..... know seven losses and eight gains, the section of early decline. The year forty, and Yin Qi, a decline in daily life." Positioning the age of premature aging at forty coincides with the age range of POF in Western medicine.

Regarding the causes of POF pathogenesis, it has long been documented in the "Su Wen :On Ancient innocence", "two seventy and Tiangui to, the Ren Meridian through, Tai Chong pulse is full of, menstruation to the time down, seven seventy seven Ren Meridian is weak, the Tiangui declines, the Tiangui exhaustion, the DIdao is not passable, so the shape of the bad and childless also". "Fu Qingzhu women's science" said: "menstrual blood out of the kidneys", "the Kidney Qi is weak, how can the fullness of the menstrual blood leakage". "General Records of the Holy Spirit" pointed out: "women so material, by the Chong Ren insufficient, Kidney QI cold reason. " "Medicine is the realization of" also said: "the menstrual blood all coming from Kidney water, Kidney water is lack of, then the menstrual blood to dry up. " In short, ancient medical doctors believe that the kidney is the basis of menstruation and conception, and POF is not to seven seven menopausal years, before the age of premature aging, menstrual premature termination accompanied by infertility, which is closely related to the kidneys, so kidney deficiency is the key to the emergence of this disease. Although the "arrival" and "extinction" of the Tiangui is dominated by Kidney Qi, it is also related to the Heart, Liver and Spleen. As pointed out in the viewpoint of "Fu Qingzhu Women's Science", "the menstrual blood early break I thought that the Heart, Liver and Spleen of the Qi depression, covered by the birth of Kidney water, wish not due to the Heart, Liver and Spleen, and the chemistry of kidney water, really about the heart, liver and spleen , the Heart, Liver and Spleen are all depressed. Both kidney water is really enough, there is a tendency of ru and difficult to spit law enforcement must be dispersed Heart Liver and Spleen of the depression and the great complementary to its Kidney water, still great complementary to its heart, Liver and Spleen of the Qi. " The kidney is the main reproductive agent, hiding the congenital essence, and is the foundation of the innate. The liver stores blood, and is the main sparing agent, as the center of qi and blood operation; the spleen is the source of Qi and blood biochemistry, and is the key to the latter day. Modern medical doctors continue to develop and innovate on the etiology and mechanism of POF on the basis of previous summaries. Chai Songyan, a famous master of national medicine, advocates that the main cause of POF lies in kidney deficiency. The pathogenesis is based on the weakness of Kidney qi, the weakening of the Chong and Ren two channels, and the gradual depletion of the Tiangui [3]. Therefore, whether it is a deficiency of the kidney or a pathological involvement of other internal organs, or the pathological influence of the six external influences and the seven internal injuries, will eventually lead to the abnormal function of the origin of the innate. Based on this viewpoint, Chai Yansong made filling the kidney with essence as the basic medication guideline for the treatment of POF. Mr. Wei Shaobin [4] pointed out that Kidney deficiency is the root cause of menorrhagia, while Liver Depression and Spleen Deficiency come second. Spleen Deficiency leads to lack of source of menstrual blood, Spleen Qi deficiency leads to loss of the uterus, and Spleen deficiency generates dampness that prevents menstrual blood from traveling downward, leading to amenorrhea. Emotional abnormalities lead to poor Qi, affecting the downward flow of qi and blood, and finally forming amenorrhea. Therefore, in the course of treating POF, not only should the kidney be tonified to fill up the essence, but also be paid to strengthening the spleen and dredging the liver. According to Professor of Xia Guicheng [5], the pathogenesis of POF is Heart-Kidney disharmony. The heart is located in the upper -jiao, with the attribute of yang as fire, and the kidney is located in the lower -jiao, with the attribute of Yin as water, and there are elevation and movement changes between the two in the physiological state. If there is an abnormality in their elevation and movement, resulting in heart-kidney disharmony, a series of pathologies will ensue. Therefore, Professor of Xia Guicheng put forward the concepts of "if the heart is not peaceful, the kidney is not healthy" and "if the heart is not quiet, the yin is not enough", and paid more attention to the regulation of the heart when treating this disease. In conclusion, this disease is based on kidney deficiency and involves the Heart, Liver and Spleen. The pathogenesis of this disease is mostly attributed to both deficiency and reality. The external treatment method of traditional Chinese medicine has many treatment methods, such as

herbal irrigation, herbal enema, herbal patch, acupuncture, umbilical cord therapy, massage, foot bath, music therapy and so on. As the famous doctor in the Qing Dynasty Wu Shiji in his book "Li Bo Pianwen" said that "the external treatment of the reason that the internal treatment of the reason, the external treatment of the drug is also the internal treatment of the drug, the difference between the methods." The therapeutic effect of external treatment of Chinese medicine and internal treatment of Chinese medicine is the same as that of internal treatment of Chinese medicine. However, in clinical treatment, it has the advantages of safety and convenience, simple operation, rapid onset of effect, and high acceptability to patients; for those who are resistant to taking Chinese herbal medicinal soup by mouth or those who have poor function of the spleen and stomach, external treatment of Chinese medicine can be used to make the medicines act directly on certain specific body parts, thus achieving the therapeutic purpose. For those who are resistant to oral Chinese medicinal tonics or have poor spleen and stomach functions, external treatment of TCM can be used to make the medicines work directly on certain specific body parts to achieve the therapeutic purpose, which is an indispensable part of clinical treatment. Therefore, it is necessary to discuss the treatment of premature ovarian failure by external treatment of TCM.

2. External application of TCM

External application of TCM refers to the external application of traditional Chinese medicine made into ointment, paste or powder to local lesions, so that the medicine acts directly on the designated area and is absorbed by the skin and mucous membranes and then directly reaches the affected area, in order to achieve the therapeutic purpose. This method is simple, safe and convenient, with remarkable therapeutic effect, which is a commonly used method of external treatment in Chinese medicine.

Eighty-four cases of POF collected by Liu Mei during three years of treatment were randomly divided into two groups: the control group was treated with artificial cycle method, and the observation group was treated with the combination of internal administration of the formula of filling essence, tonifying kidney, nourishing blood and sparing the liver and external application of traditional Chinese medicine. Comparing the clinical treatment effects of the two groups, the total effective rate of treatment of patients in the observation group was significantly higher than that of the control group ($P < 0.05$). The endometrial thickness, uterine volume and ovarian volume of patients in the observation group were significantly greater than those in the control group after treatment ($P < 0.05$). FSH and LH were superior to higher than the control group. The results were statistically significant [6]. Min Liu divided 107 patients with POF into a treatment group (56 patients) and a control group (51 patients) according to the different treatment methods. The control group was given artificial cycle therapy, and the treatment group was given Kidney tonifying and meridian-passing formula plus external application of traditional Chinese medicine on the basis of the control group. At the end of the follow-up, the clinical efficacy and serum E2, FSH and LH levels of the two groups were observed. After half a year, the FSH, LH and E2 levels of the treatment group improved significantly compared with those of the control group, and the treatment of premature ovarian failure by tonifying the kidney and promoting menstruation plus external application of traditional Chinese medicine was effective and worth applying in the clinic [7]. Cheng Xijian et al. selected 100 patients who were diagnosed with POF in gynecological outpatient clinics within six months and randomly divided them into two groups of 50 patients each. The treatment group was given low frequency acupoints of Ziwu Liuzhi together with hot compresses of Guanyuan acupoints of Shuangbai San, while the control group was given the therapeutic drug of oral estradiol valerate tablets. At the end of the treatment cycle, the results showed that the overall effective rate of treatment in the treatment group (98.0%) was higher than that in the control group (86.0%), which proved that the clinical efficacy of meridian flow injection and low-frequency acupoints combined with the hot compress of Shuangbai San in the treatment of premature ovarian failure was remarkable, and could be used for

clinical application [8].

3. Acupuncture Therapy

Acupuncture treatment, is a long history of characteristic Chinese medicine external treatment. Acupuncture is to stimulate local meridian points through needles to achieve the therapeutic purpose of improving local blood flow and adjusting the function of internal organs.

3.1. Manual Acupuncture

Zhang Yingchun et al. randomly selected 50 cases of POF patients, acupuncture Guanyuan, Qihai and other related acupoints to improve the function of the brain-pituitary-ovarian reproductive axis after three months of treatment, the patients' FSH, LH and other indexes were significantly changed, and 14 of them were successfully pregnant. The results proved that adjusting the patients' hormone levels through acupuncture therapy has definite efficacy in the treatment of POF [9]. Zhang Yi et al. selected 60 patients with POF and utilized the treatment method of acupuncture together with traditional Chinese medicine soup, and the clinical cure rate was more than 60%. The results of this study showed that the patients' menstrual status improved, and the values of E2, FSH, and LH changed dramatically [10].

3.2. Electroacupuncture

With the rapid development of social modernization, electro-acupuncture therapy has been widely used in medical practice. Choosing the right frequency of electricity according to the specific conditions of the patient's disease can not only improve the blood circulation and nutrition of the treatment area, but also improve the regulation of the neuroendocrine system.

By using a case-series study, Wu Jia Ni et al. enrolled 13 consecutive POF patients who met the criteria for electroacupuncture treatment for 2 to 6 months. At the end of the treatment time, the results were that menstruation returned in 10 of the 13 patients (76.9%), of which 6 had basically normal menstrual flow and 4 had low menstrual flow; other therapeutic indexes also improved substantially. It proved that electroacupuncture treatment could help most POF patients to resume regular menstruation, increase the E2, and decrease the level of FSH and LH [11].

4. Moxibustion Therapy

Mugwort is warm in nature, aromatic in odor, and is pure yang in nature. It has the effect of warming the meridians and opening up the channels. When burning moxa leaves can borrow moxibustion heat to stimulate acupuncture points to stimulate the meridians, blood circulation, thus playing the role of adjusting the body's Qi and blood Yin and Yang. The "medical understanding" said: "all the diseases of the medicine cannot reach its limit, the needle cannot penetrate the area, must be moxibustion." Moxibustion is convenient and easy to operate. Its penetrating force is strong, can penetrate into the body organs and meridians, play a role in the overall regulation, improve the therapeutic effect, is a specific form of traditional Chinese medicine external treatment of internal diseases. Tang Haixia treatment of POF patients 40 cases, using moxa moxibustion moxibustion Guanyuan, uterus, foot Sanli, Sanyinjiao and Yidu regulating Chong particles with the treatment, treatment for 6 months, clinical statistics moxibustion therapy, the total effective rate of 82.5%, this therapy is also to improve the improvement of the lumbar and knee soreness and weakness, insomnia and excessive sleep and other symptoms of the improvement of the effect is remarkable [12]. Tang Haixia treated 40 cases of POF patients, using moxa moxibustion moxibustion Guanyuan, uterus, Zusanli, Sanyinjiao and Yidu Tiaochong Granules with treatment, after 6 months of treatment, clinical statistics moxibustion therapy total effective rate of 82.5%, this therapy is also to improve the

lumbar and knee soreness and weakness, insomnia and sleepiness and other symptoms of the effect is remarkable [12]. Li Shuxiang randomly selected 32 cases of POF patients, using acupuncture combined with spaced ginger moxibustion, taking spaced ginger moxibustion moxibustion Shenque, after 40 days of treatment, the patients' menstrual period, the amount of menstruation, and the clinical symptoms have been significantly improved, and the total effective rate is 90%. The total effective rate was 90%. It can be shown that spaced ginger moxibustion has obvious effect on improving the symptoms of POF [13]. Huang Jieyong randomly divided 60 cases of mild POF patients admitted into two groups, 30 cases in each group, the control group for conventional treatment and the observation group for conventional treatment combined with warm uterine moxibustion treatment. At the end of the treatment process, the result was that the total effective rate of treatment in the observation group was significantly higher than that in the control group ($P < 0.05$). Symptoms such as dizziness and fatigue, lumbar and knee pain and weakness in the treatment group were significantly due to the control group. This shows that the application of warm uterine moxibustion in patients with mild POF is effective and can significantly improve the ovarian reserve function and endometrial tolerance of patients [14].

5. The method of burying threads at acupuncture points

Chinese medicine buried line treatment is the use of sheep's intestines into the patient's meridians using a needle into the subcutaneous, to achieve long-term stimulation of the therapeutic effect of the veins, and sheep's intestines can be absorbed by the human body does not need to be removed. Its operation is simple and convenient, safe and effective.

Fang Qingxia et al. selected 76 patients with POF and used Chen's kidney tonifying and blood activating formula combined with acupoint buried thread and estrogen-progestin sequential therapy, selecting Guanyuan, Zhongji, Xuehai and Shenshu, and burying the thread once in 2 weeks. After three menstrual cycles of treatment, the effective rate of 89.4% in the group of burying thread and taking medicine was higher than that of 86.7% in the group of western medicine [15]. Zhuang Chunxia et al. divided 68 cases of POF patients into two groups according to the randomized numerical table method, 35 cases in the control group and 33 cases in the observation group, the control group was treated with western medicines, and the observation group was treated with Kuntai capsule combined with acupoints burying threads. After 3 months of treatment cycle, the results showed that the total effective rate of the observation group was higher than that of the control group ($P < 0.05$). It is proved that acupuncture point buried thread combined with Kuntai capsule has better efficacy in treating kidney yin deficiency type of menorrhagia [16]. Zhang Lingling selected 60 cases of patients with ovarian reserve hypoplasia and divided them into two groups of 30 cases each according to the randomized grouping method. The control group was treated with traditional Chinese medicine orally, and the treatment group was treated with Wangri acupoints on the basis of the control group. At the end of the treatment cycle, the total effective rate of the treatment group was significantly higher than that of the control group ($P < 0.05$). Thus, it can be proved that the clinical efficacy of using Wangri acupoint embedding combined with traditional Chinese medicine in treating patients with ovarian reserve hypoplasia is remarkable, and it can effectively improve the level of sex hormone and the symptoms of irregular menstruation [17].

6. Chinese herbal enemas

Chinese medicine enema is the decoction of Chinese medicine directly into the rectal area, so that the drug diffusion and in the pelvic cavity, so that the efficacy of the drug to get full play to achieve the therapeutic purpose of a kind of traditional Chinese medicine external treatment method.

Wang Yanping et al. randomly divided 70 cases of POF patients into treatment group and control group, each with 35 cases. The treatment group adopted the traditional Chinese medicine preserved enema of Erxian Tang plus and minus Xianmao, Baqitian, Yinyanghuo, Zhimu, and so on, 3 days

after the menstrual period was cleaned. The control group was orally administered with Erxian Tang plus or minus Chinese herbal soup 3 days after menstrual blood cleansing. After both groups were treated for 3 months, it was concluded that the total effective rate of the treatment group was 85.71% higher than 80.0% of the control group, and other clinical symptoms were also improved. It indicates that the treatment of POF by preserved enema with the addition and subtraction of Erxian Tang is efficacious, safe and convenient [18]. Yang Zongmeng used traditional Chinese medicine retaining enema plus moxibustion treatment at Shenque acupoints to treat premature ovarian failure, in which the selected traditional Chinese medicines were customized according to symptomatic changes with the combination of Erxian Tang or Pai Ziren Wan and Zelan Tang, Wu Zi Diffractive Wan, and the therapeutic effect was remarkable [19].

7. Other therapies

Wang Fengyang randomly assigned 72 patients with kidney deficiency type POF and divided them equally into two groups, the treatment group was oral Kirin Wan and combined with foot bath therapy the control group oral Kirin Wan. The study compared three processes. It was observed that the effective percentage of the treatment group was significantly higher than that of the control group [20]. Li Yanhua divided 96 patients with kidney deficiency and liver depression type POF who met the criteria for natriuresis into 48 cases in the group of Traditional Chinese Medicine Kidney Tonic and Liver Shredding Formula and 48 cases in the group of Kidney Tonic and Liver Shredding Formula combined with Five Elements Music according to the randomized numerical table method. After three menstrual cycles of treatment, it was concluded that both the Kidney-Tonifying and Liver-Sparing Formula and the Kidney-Tonifying and Liver-Sparing Formula combined with the Five Elements Music could improve the symptoms of menstrual flow, lumbar and knee soreness, and decreased libido in patients with POF, and were superior to the Kidney-Tonifying and Liver-Sparing Formula alone in lowering the other therapeutic indexes [21].

8. Conclusion

To summarize, in recent years, with the social and economic development, women's pace of life has been accelerated and pressure has multiplied, and the incidence of POF has gradually increased. At present, the treatment of premature ovarian failure in western medicine mainly adopts the hormone replacement method. However, hormone therapy has many drawbacks, such as obvious side effects, limited indications, many relative contraindications in the process of use, easy to relapse after stopping the drug, even the potential risk of cancer and other adverse reactions. Therefore, it is urgent to find better treatments for POF patients. Compared with the use of hormone therapy alone in the treatment of patients with premature ovarian failure, the external treatment of Chinese medicine alone or in combination with TCM and Western medicine has the unique advantages of safety and convenience, simple operation, rapid onset of action, cost-effective and so on. However, a review of the literature still leaves something to be desired: (1) Lack of evidence of efficacy. Clinical observation lacks large sample size of cases and randomized controlled studies. (2) Lack of research evidence. Experimental studies on TCM in the treatment of premature ovarian failure still need to be further developed. (3) The characteristic clinical treatment methods of Chinese medicine still need to be further improved. How to make TCM treatment form a more standardized, scientific and standardized treatment process is still the focus of future research and exploration. Therefore, first of all, in the future, it is necessary to continuously improve and develop the existing theory of external treatment of Chinese medicine, and to better integrate external treatment of Chinese medicine with modern clinical practice. Secondly, we will give full play to the characteristics of external treatment of Chinese medicine, expand the clinical sample size, extend the follow-up period appropriately, and formulate a personalized treatment plan that is more suitable for the patient's own conditions in order to improve the cure rate of patients with premature ovarian failure. Therefore, in the future, it is

necessary to continue to improve and develop the existing theory of external treatment of Chinese medicine, and to better integrate external treatment of Chinese medicine with modern clinical practice. In addition, it is necessary to give full play to the characteristics of external Chinese medicine, expand the clinical sample size, extend the follow-up period appropriately, and formulate a personalized treatment plan that is more suitable for the patient's own conditions in order to improve the cure rate of POF patients, so that external Chinese medicine can play a more advantageous and useful role in the treatment of POF.

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