

TCM Treatment of Premature Ovarian Failure and Infertility

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Abstract: Premature ovarian failure (POF) is basically very early menopause, occurring before women reach the age of forty, or even in the ages between 15 and 29. It is one of the most common conditions affecting women's fertility. POF is an extremely frustrating diagnosis, as women with POF often accompanied with elevated follicle stimulating hormone (FSH) level, and the only option for those women to conceive is having IVF with donor eggs. Western gynaecologists often prescribe hormone replacement therapy (HRT) or contraceptive pills for the patients. Although this may suppress the FSH, helping women menstruate again, but it would neither improve the ovarian function nor promote ovulation, nor achieve pregnancy. However, TCM is the most effective treatment for infertility caused by POF. In this article the author analyses the TCM aetiology and pathology of POF, discusses how it affects infertility, the possible causes of western medicine, and how to use TCM precisely and effectively to treat POF. She has also reports some successful cases that represent women with different ages and fertility issues.

Key Words: Premature ovarian failure (POF); Follicle stimulating hormone (FSH); Hormone replacement therapy (HRT); Traditional Chinese medicine (TCM); In-Vitro Fertilisation (IVF); Intrauterine Insemination (IUI).

1. What is premature ovarian failure?

Premature ovarian failure (POF) is also called premature menopause, it is the loss of ovarian function in women under the age of 40, or even in the ages between 15 and 29^[1]. Women with POF do not ovulate each month and often accompanied with elevated follicle stimulating hormone (FSH). This loss of function can be due to a less than normal amount of follicles or a dysfunction in the ovaries.

A woman can be affected by POF at any age or time in her life. It can happen before or after she has had children, or while she is still planning her family. There are approximately 1-4% of the female population has POF^[2].

2. How does POF affect fertility?

2.1 Western medicine view

Ovulation and FSH

Most women were born with about 1-2 millions eggs, but this reduces to about 300,000 by puberty^[3]. From then on in each monthly cycle about 100 eggs start out to end up with one egg being ovulated^[3,6].

FSH is a hormone that is produced and released by the pituitary gland, and triggers some follicles each month to stimulates the ovaries to develop follicles, ripen the eggs and eventually release the mature egg. If the follicles do not mature, and produce oestrogen to stop the production of FSH, FSH will continue to produce and rise to high level. This is why women with POF are checked for high levels of FSH.

A baseline FSH blood test on day 2 or 3 of the menstrual

cycle is expected to be below 10 iu/l, in women with reproductive potential, FSH levels of 10-12 iu/l are considered borderline^[4].

FSH and POF

The gradual loss of eggs during women's fertile years is normal. As women aging, FSH starts fluctuating, this reflects women's natural changing process. But in women with POF, the loss of eggs is accelerated, and their ovaries are depleted and the follicles become less responsive to hormonal stimulation. As a consequence, hypothalamus sends the pituitary gland messages to try work hard to stimulate ovaries, and then more FSH is produced to invigorate the ovaries. In such cases, estradiol (oestrogen) production is reduced, the uterine lining is too thin for implantation, and the eggs had no chance to fully mature, therefore the women become progressively less fertile. They can't even embark on IVF or IUI until their FSH drop to the cut-off line, as they are more likely to be a poor responder to fertility drugs used to stimulate their ovaries during IVF or IUI treatment.

Possible causes

Unfortunately for most women the cause is unknown. There are, however some possible causes that may be identified which include:

- Autoimmune disorders
- Chromosomal / Genetic defects
- Discontinuing the use of oral contraceptives
- Damage from pelvic surgery, abortion, ectopic pregnancy, miscarriage or pelvic inflammatory disease (PID)

- Chemotherapy or radiotherapy
- Turner syndrome
- Thyroid dysfunction
- Viral infection
- Inadequate gonadotropin secretion or action
- Heavy smoking and drinking
- Long-term stress, anxiety or depression
- Eating disorders

2.2 TCM philosophy

TCM views most cases of POF as a combination of excess and deficiency patterns^[5,6]. The majority of POF women I have treated which have presented with a severe kidney yin deficiency, and often accompanied by spleen qi and liver blood deficiency, as well as liver qi stagnation and deficient heat, although some cases may also have blood stasis.

Kidney yin deficiency together with Spleen qi and blood deficiency

Being born with a genetic constitution of kidney yin deficiency, or long term intake of contraceptive pills suppressed kidney qi and yin (essence); or weak condition after a long-term illness, or lost excessive amount of blood during labour, or miscarriage, or ectopic pregnancy, this impaired spleen qi, and then fail to support stomach transforming the food we ate into qi and blood, causing qi and blood deficiency. As a consequence, the penetrating and conception meridians become 'empty', the uterus and ovaries are being starved of blood flow, its function begins to decline, and then POF occurs, the women become infertile.

Liver qi stagnation together with liver blood deficiency and concurrent heat

Extreme stress, anxiety or worry, or working long hours, may cause liver qi stagnation, fail to regulate and store blood; or chemotherapy, radiotherapy, or heavy drinking and smoking, could cause depletion of kidney yin and deficiency heat, and insufficient liver blood. This will eventually leading to malfunction of uterus and ovaries, and interrupting hormonal balance. As a result, POF appears, and hence impact the women's fertility.

Blood stasis in the uterus

After a pelvic operation, abortion, miscarriage or PID, the blood stagnated in the uterus and endometrium become unsmooth. Poor blood circulation causes an unfriendly environment in the pelvic area and impairs nourishment of uterus and ovaries. Consequently the ovaries stop performing and fail to respond to message from the brain, creating an imbalanced hormone level, leaving no chance to conceive.

3. Clinical symptoms

The main symptoms of POF are: short or irregular menstrual cycle with scanty bleeding, amenorrhea, early ovulation or an-ovulation, hot flashes, night sweats,

insomnia, headache, irritability, lethargy, lack of cervical mucus, decreased sexual drive, painful sex and infertility. These symptoms may appear suddenly over a couple of months, or gradually over several years.

Some women may continue to have normal periods and had no symptoms. Diagnosis may only be discovered when FSH levels are measured after years of unsuccessful conception.

4. Treatment

4.1 Western medicine therapy

POF is an extremely frustrating diagnosis, since western medicine generally does very little for it. The treatment is usually oestrogen replacement therapy, such as HRT (hormone replacement therapy). This may make the women menstruating again, and perhaps relieve some of the symptoms^[7]. However, this is not an option for women who are attempting to conceive, as the artificial oestrogen sends signals to the brain that it doesn't need to stimulate the ovaries to produce oestrogen, therefore the whole hormonal system then goes to sleep. As a result, the ovarian function would not be restored.

Women with POF are often advised to consider IVF with donor eggs. While this might give them a baby, it does nothing to address the underlying failure of the ovaries.

4.2 TCM treatment

Since the average age of POF onset is twenty-seven^[1], most women prefer a treatment that will restore their ovaries and hormonal system to fully functional health, and then to be able to conceive with their own eggs and have their own genetic children. TCM is one of the most effective treatment methods for POF.

TCM treatment principle

I summarised the TCM treatment principle according to my clinical experience and some TCM academic literatures I've read:

- The key point of treating POF is nourishing kidney yin to support oestrogen, strengthening spleen qi and tonifying blood to increase blood supply to the uterus and ovaries. Together to restore ovarian function, thicken uterine lining and rectify hormonal imbalance, therefore promote ovulation, and enhance the chances of conception.
- Harmonising liver qi and blood to regulate menstrual cycle and improve blood circulation; nourishing heart blood to calm down the spirits and relax the mind; balancing the yin-yang to improve ovarian function. Together to reduce FSH level, improve eggs quality and increase fertility.
- Removing blood stasis to soften scar tissues, strengthen uterine self-healing function and improve general well being. Create a welcoming environment in the uterus for the eggs to be fertilised and implanted.

Table 1 TCM prescription

Patent Herbs	Dried herbs or concentrated powders		Acupuncture points	
1: Kidney yin deficiency together with spleen qi and blood deficiency				
Liu wei Di Huang wan (Six Flavour Pill) or	Tu Si Zi	Nu Zhen Zi	Baihui (DU20)	Taixi (Ki 3)
Zuo Gui Wan (Restore Left Kidney Pill)	Han Lian Cao	Mai Men Dong	Qihai (Ren 6)	Zusanli (St 36)
combine with Gui Pi Wan (Restore Spleen Pill) or	Shan Yao	Dang Gui	Neiguan (Pc 6)	Xiehai (Sp 10)
Fu Ke Yang Rong Wan (Woman's Tonic Pill)	Shu Di Huang	Gou Qi Zi	Shenshu (UB 23)	Sanyinjiao (Sp 6)
	Ji Xue Teng		Guanyuan (Ren 4)	Pishu (UB 20)
			Zigong (EX-CA 1)	
2: Liver qi stagnation together with liver blood deficiency and concurrent heat				
Jia Wei Xiao Yao Wan (Modified Easing Pill),	Chai Hu	Mu Dan Pi	Yintang (EX-HN 3)	Quchi (LI 11)
Yang Xue An Shen Wan (Nourish Blood and Ease Mind Pill)	Yie Jiao Teng	Suan Zao Ren	Shenmen (He 7)	Waiguan (SJ 5)
	Chong Wei Zi	Bai Shao Yao	Zhongji (Ren 3)	Guilai (St 29)
	Xiang Fu	Nu Zhen Zi	Taichong (Liv 3)	Hegu (LI 4)
	Han Lian Cao	Gou Qi Zi	Ganshu (UB 18)	Geshu (UB 17)
3: Blood stasis in the uterus				
Xue Fu Zhu Yu Wan	Tao Ren	Hong Hua	Tianshu (St 25)	Guanyan (Ren 4)
(Drive Out Stasis from the Mansion of Blood Pill) or	Dan Shen	Chi Shao Yao	Zhongji (Ren3)	Diji (Sp 8)
Tao Hong Si Wu Wan	Chuan Xiong	Shu Di Huang	Guilai (St 29)	Xiehai (Sp 10)
(Four Substance Decoction with Safflower and Peach Kernel)	Yi Mu Cao	Mu Dan Pi	Hegu (LI 4)	Sanyinjiao (Sp6)
	Ze Lan	Xiang Fu	Shangliao (UB 31)	Ciliao (UB 32)

5. Case Studies

Case one: Secondary infertility with POF

Kate, 32 years old, had taken contraceptive pill for over 10 years before trying for a family. Her period stopped for 6 months after she came off the pill. She then conceived her first child naturally 12 months later. She didn't menstruate for 10 months after gave birth to her daughter, although she had breast-fed the baby for 3 months only. Her period was irregular when she started menstruating again eventually. The cycle was 22 days with light bleeding, and she then stopped menstruating altogether after 5 months. She went to see a consultant in the hospital, day 2 blood tests revealed high FSH level of 46 iu/l. She was diagnosed with POF, and was told that has no chance of conceiving naturally. She was devastated, and walked out the hospital with a prescription of 6 months HRT drugs.

She visited me as a last resort and started having acupuncture along with Chinese herbal tablets. The treatment plan was to nourish blood and kidney yin, to strengthen spleen qi and kidney energy. She had also taken my advice following a restricted special fertility diet. Her period came back after 4 weeks of treatment, and her cycle was regulated to 28 days ever since. Three months later, she had requested for another blood test to recheck her FSH level, but was refused by the consultant. Instead she was advised to consider IVF with donor eggs. She continued TCM treatment for another month while she was on the waiting list for donor eggs. She surprisingly fell pregnant naturally with twins, and gave birth to two healthy girls in 2008.

Case two: POF after surgery, Chemotherapy and radiotherapy

33 years old Sophie, She went on contraceptive pill at the age of 13 due to heavy periods, and was diagnosed with breast cancer at the age of 18, which had spread to her bones a few months later. She had chemotherapy and radiotherapy for two years, and had taken Tamoxifen for 5 years which has caused amenorrhea for 5 years. She started menstruating again in 1999, and period cycle was between 25-37 days. She had been trying to conceive since 2005, but discovered her FSH level had elevated to 20 iu/l, and was diagnosed with POF. She cannot embark on IVF, was referred to me by the gynaecological consultant.

She was very negative and stressed, felt hot most of the time, even though she had cold hands and feet, night sweats, poor sleep, headaches, thirst, fatigue and craving for sweets before period due. Hysteroscopy and laparoscopy found scar tissues in her uterus. Her condition was rather complicated, with a mixture of excess and deficiency. The liver qi was stagnated and the kidney yin was deficient with concurrent heat, together with spleen qi and blood deficiency.

My treatment plan was divided into two steps: Firstly, soothing liver qi to regulate period, nourishing kidney yin to cool down heat. Together to increase oestrogen level, improve ovarian function, reduce FSH level and promote ovulation; Secondly, tonifying blood and strengthening spleen qi to increase blood supply to the uterus and ovaries, and thicken uterine lining for implantation.

After she had acupuncture regularly for five months combined with patent herbs, her FSH level reduced to 5.5 iu/l and scan showed that ovulation had occurred. She continued TCM treatment for another three months and conceived naturally. She had experienced a really healthy pregnancy, delivered a healthy baby girl by cesarean section, and her daughter is now 2 years old.

Case three: Endometriosis with POF

Business manager Clare, aged 34, had oral contraceptive pill for 11 years before trying to conceive in 2004. Her menstrual cycle was between 25 to 46 days, it was always painful with heavy bleeding. She had blood tests in 2006 and discovered that she did not ovulate. She had then tried clomid for 10 months (two courses) and one cycle of IUI with no success. She had laparoscopy 3 months ago and severe endometriosis was detected with an ovarian cyst. She was then operated and removed displaced endometrial tissues, and expecting she would be able to start IUI soon. But her period cycle had shortened to 19 to 25 days ever since, and FSH level elevated to 18.6 iu/l, with low oestrogen (oestradiol) level of 78 pmol/l. The gynaecological consultant had to postpone her IUI and referred her to me.

However, her period cycle was regulated to 27 days with normal blood flow after 6 sessions of TCM treatment, day 4 blood test had revealed FSH level had dropped to 10.2 iu/l and oestradiol had raised to 138pmol/l, and ultrasound scan showing ovulation had occurred. She continued acupuncture with herbal tablets for another 3

months, and fell pregnant naturally while she was expecting to start IUI on that cycle. She had no complication at all during pregnancy, had delivered a healthy baby girl just before Christmas of 2008.

Case four: POF due to stress

Lisa visited me for the first time when she was 40 years old, after she had one failed IVF attempt and one cancelled IVF cycle due to poor response, which converted to IUI instead. She was extremely stressed, depressed and anxious, always feeling cold and tired, suffering from severe backache and shoulder pains. Her period cycle was between 21 to 28 days, with heavy bleeding and blood clots, painful and bad PMT.

Her condition was spleen qi and kidney yang deficiency, together with liver qi and blood stagnation. Acupuncture and Chinese herbs were given to harmonise liver qi and blood, replenish spleen and kidney, and warm up uterus. Her period cycle had gone back to 28 days after 5 weeks of treatment, and she generally felt much better. Unfortunately, she had stopped treatment altogether since she was in a difficult situation. Sixteen months later, her FSH level elevated to 14.6 iu/l, and was told that it was unlikely she would ever conceive with her own eggs.

However, she wanted to try one more attempt of IVF with her own eggs whilst waiting for donor eggs, and had requested combining with acupuncture for the first time. On this occasion, she responded incredibly well, produced eight follicles, had two embryos of grade one transferred, and successfully achieved a pregnancy. She finally gave birth to a healthy baby girl just before her 43rd birthday.

6. Conclusion

- 1) Women with POF are not only unable to conceive naturally, but also can not embark on IVF with their own eggs until FSH dropped to normal range. They are very often advised to having IVF with donor eggs. Therefore, frustration, stress and anxiety are always the conditions that need be addressed, and acupuncture is the best option to consider.
- 2) TCM is the most effective and beneficial treatment for POF, which relies on precise diagnosis and differentiation, appropriate acupuncture and herbal prescription. However, we must resourcefully individualise the treatment programme according to the women's conditions in order to achieve the best result.
- 3) The treatment plan for women with POF is to regulate period first by soothing liver qi, nourishing kidney yin or essence, tonifying qi and blood. When they restart menstruating regularly, the treatment principle should be modified according to their four different phases of menstrual cycle, the yin-yang pattern and the qi-blood transformation, in order to promote ovulation and support conception.
- 4) Once the women's ovarian function is restored, and FSH dropped to normal level, they generally have great chances of conceiving naturally if they continue

TCM treatment, although IVF may be necessary for some of them with other fertility issues. The gynaecologists often advise patients to stop taking any other medications including Chinese herbs whilst having IVF drugs. In these cases, I suggest that we should cooperate with the consultant, applying acupuncture only. However, we may need modifying some acupuncture points according to their IVF treatment protocols, in order to achieve the best possible outcome.

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知柏地黄丸治疗 122 例更年期综合症

江丹

1. 前言

更年期综合症是妇女的多发病症，几乎多数的妇女在其性激素自然退化过程中会由于人体平衡机能被打乱，而出现不同程度的临床症状。用激素替代疗法（HRT）可以明显地改善这些病状，同时大大的提高妇女的生命质量，有意义的减缓衰老的征象【1】。但是近年由于激素替代疗法的长期应用所带来乳房，子宫等内分泌器官癌症的发病率增高【2】，使医患对激素替代疗法的应用渐生疑虑，从自然药物中寻找替代品种已成为趋势。因而，在中医的门诊中，在许多补充医学疗法中，更年期妇女寻求帮助成为较多的就诊人群。

总结从 2000 年一月至 2010 年十一月接诊的 122 例更年期患者，占我同时期病人总数的 3%，是中医门诊较为常见的病症之一。中成药知柏地黄丸，则显示出其良好的治疗效果。不仅有效地改善临床症状，并且长期服用无毒副作用【3】，可以明显的提高妇女绝经后的生命质量，是替代 HRT 的较好选择。

参照国内的报道【4，5，6】，大多数的研究是以知柏地黄丸与 HRT，或其他植物类激素同用，而以雌激素水平提高作为其判断是否控制更年期综合症的客观标准；我认为激素水平提高，仍然不能有效地降低内分泌系统癌症发生的风险。因而，我们应当客观地评定知柏地黄丸的临床功效。只要能够确切地改善临床症状，提高绝经期妇女的生命质量，让雌激素保持在更年期水平，才应该是顺应自然的，无癌症风险的，最理想的治疗手段。

2. 更年期的临床症状与常见的并发症

2.1 主症

潮热，盗汗；失眠，以夜间中断睡眠，及晨眠早醒为

特征；月经后期，经量减少（更年期前），或闭经（已更年期）；阴道干涩，性欲减退。

2.2 并发症

- 1) 情绪低落
- 2) 周身关节痛
- 3) 习惯性便秘
- 4) 尿频

3. 中医辨证分型

主证

肾阴虚火旺

常见证型的综合辨证

- 1) 肝肾阴虚：潮热，盗汗，情绪焦虑，烦闷抑郁，如热甚则：失眠，头痛，急躁易怒；舌质红绛少苔，脉弦细。
- 2) 脾气虚，肾阴虚：疲劳，周身困重，便溏，腹胀，水肿，眠不安，食不消；舌淡红齿痕薄白苔，脉沉少力。
- 3) 脾肾气阴两虚：疲惫劳累，便秘水肿，失眠潮热，舌质淡红白苔，脉沉细。
- 4) 心肾不交：心悸烦躁，焦虑失眠，潮热盗汗，尿频尿灼，耳鸣耳聋；舌质瘦薄而红少苔，脉沉细。

4. 治疗方案

中成药

知柏地黄丸：熟地黄，山茱萸，山药，泽泻，茯苓，牡丹皮，黄柏，知母

当症状较重时，可短时间以上方为基础，处以汤药，