

TREATING INFERTILITY WITH CHINESE MEDICINE

By Cindy Micleu, L.Ac.

Throughout the menstrual cycle, changes in reproductive physiology are matched by energetic changes, with fluctuations of yin, yang, qi, and blood reflected in the various phases of the cycle. Examining these changes in the follicular, ovulatory, luteal, and menstrual phases, allows for a detailed view of a woman's reproductive cycle. In the diagnosis and treatment of infertility with Chinese medicine, the AOM perspective is assessed with special regard for reproductive health, and the normal functioning of each specific stage of the menstrual cycle is supported as needed.

Treating the menstrual phases is also a strategy commonly employed in cases of "unexplained infertility," a diagnosis frequently given when there are no specific problems detected in a Western medicine infertility evaluation. In these cases, the ovarian follicles are developing normally on ultrasound evaluation, hormone levels are in normal range, and ovulation seems to be occurring properly. Pelvic organs are structurally sound and free of endometriosis and fibroid tumors, the endometrial lining builds adequately, and sperm parameters are within normal range. Advanced age is often the assumed problem in these infertility cases.

In a Chinese medicine evaluation, more subtle cues of imbalance may be detected, but not always. Sometimes infertility patients are seemingly robust and healthy, and often fairly young, yet they have significant problems conceiving. In fact, women in their 20's have the fastest growing infertility rate of any age group, according to the National Center for Health Statistics. In Oriental medicine, the kidney and liver dominate reproduction, yet patients may have little or no symptoms of low back pain, nighttime heat, excessive dryness, or fatigue, and their menstrual cycle and flow may be relatively normal. They may have few complaints and no clear diagnostic imbalance, though their liver and/or kidney pulses are weak.

In recent times, the term "reproductive health" has been used to distinguish a person's general state of health from that of their reproductive system. From a Western medicine point of view, researchers are increasingly suspicious of the role that environmental toxins play on rising infertility rates. Referred to as "endocrine disruptors" because they interfere with hormone function, some chemicals such as phthalates and bisphenol A (in many plastics) have been implicated in rising rates of cancer, miscarriage and both male and female infertility. Patricia

Hunt, a research biologist at Washington State University, has shown that repeated small exposures to these chemicals found in everyday life specifically target the reproductive system and can cause severe genetic abnormalities in egg cells.¹

Statistics show one in eight people in the U.S. have an infertility problem (Resolve: The National Infertility Organization). This is a quickly growing patient population. There has been a great deal of research on the use of Chinese medicine in conjunction with ART (assisted reproductive technology) with significantly positive outcomes, which has led many fertility clinics to refer patients to Chinese medicine. Patients are often spending a great deal of money on fertility technology, with expo-

sure to high levels of chemical hormones. There is also the long-term emotional stress inherent in the process. For many reasons, Chinese medicine practitioners are in a unique position to be important and effective health care providers for these patients.

TREATING FEMALE INFERTILITY THROUGH THE MENSTRUAL CYCLE

Menstrual Phase

Day 1 of the menstrual cycle is the first day of the menstrual period. The actual definition of which day is designated as "day 1" can vary from source to source. Generally it is the first day of significant menstrual bleeding, not just spotting. If the period begins in the evening or during the night, from about 6pm-midnight, "day 1" is considered to be the following day.

During menstruation, the endometrial lining of the uterus is shed. A quick drop in progesterone usually precedes the beginning of the period, and on day 1 both the estrogen and progesterone levels are relatively low.

From a Chinese medicine point of view, with the loss of blood during menstruation, the ren and chong gradually empty, and by the time the menses is over the ren and chong, kidney yin, and liver blood are at their lowest in the cycle. Problems during the menstrual period are most commonly indicative of problems with qi and blood flow, while problems that occur or are worse towards the end of the menses are generally associated with blood deficiency.

Treatment of infertility during the menstrual phase focuses on clearing any stagnation that may impede the quality and movement of qi and blood in the following

CHONG RELEASE FORMULA

Spatholobus <i>Ji Xue Teng</i>	15%
Mimosa Tree Bark <i>He Huan Pi</i>	15%
White Peony <i>Bai Shao</i>	12%
Codonopsis <i>Dang Shen</i>	12%
White Atractylodes <i>Bai Zhu</i>	12%
Angelica Sinensis <i>Dang Gui</i>	10%
Red Peony <i>Chi Shao</i>	10%
Ligusticum <i>Chuan Xiong</i>	6%
Persica Seed <i>Tao Ren</i>	5%
Carthamus <i>Hong Hua</i>	3%

cycle. Clearing blood stasis facilitates the complete discharge of menstrual blood so that the new endometrial lining can grow on a smooth, clean base. Some practitioners will use herbs to "flush" the uterine lining blood during menstruation, encouraging the complete discharge of the endometrium, even if there are no overt symptoms of blood stasis. But in particular, if there are signs of stasis such as clotting, cramping, or irregular bleeding, this may be a particularly useful strategy.

A base formula used during the menstrual phase is **Chong Release Formula** (*Jia Wei Tao Hong Si Wu Tang*). *Shu di* was omitted from the traditional formula due to its cloying nature, while herbs to support the spleen were added to reinforce the ability of the qi to expel the blood effectively and to support the production of blood after the loss during menstruation.

Follicular Phase

The follicular phase begins on day 1 of the menstrual cycle when new follicles, containing eggs, begin their growth. Clinically, we generally begin support of this phase after the major menstrual blood flow is over, usually around day 4.

During the follicular phase, the hypothalamus and the pituitary interact, stimulating the pituitary to release FSH (follicle stimulating hormone), that in turn stimulates the maturation of the ovarian follicles. One of these follicles will grow to become the largest, or dominant follicle, and will release its egg at ovulation.

The regeneration of the endometrium, or uterine lining, begins about 2 days after the onset of menstruation, even though menstrual bleeding still continues. This process includes tissue repair of the uterus where the lining has shed, as well as the development of estrogen and progesterone receptors in the new tissue. Estrogen is the dominant hormone during this phase, and as the levels gradually rise, proliferation of the endometrium and its dense vascular network is stimulated. It also causes the cervix to produce cervical fluid.

From a Chinese medical perspective, follicle development is a yin process, dependent on yin, blood and essence. In the follicular phase, the Ren and Chong are filling and the yin and blood are building as the follicles grow. Any tendency to yin and/or blood deficiency should be supported during this time in particular. Yin and blood deficiency affecting fertility may manifest with poor follicular development, thin endometrial lining, or decreased cervical mucus.

Secondarily, heat may be a problem during this phase, as it easily causes damage to the yin, and can enter the blood prompting it to move recklessly at ovulation or menstruation. Heat can cause follicles to grow too quickly, resulting in poor egg quality, and may cause early ovulation and the shortening of the entire menstrual cycle.

Heat in the follicular phase is commonly due to yin deficiency or stagnation of the heart and liver qi. Patients with fertility problems frequently experience a great deal of stress when month after month they are unable to conceive. In these cases, heat from stagnation may disturb the steady building of yin and blood, and is often seen in upward spikes in the basal body temperature.

Nourish Ren & Chong Formula (*Jia Wei Gui Shao Di Huang Wan*) is a very effective formula for the follicular phase, nourishing both the yin and blood. The heart and liver may be addressed with additions or modifications to the formula.

With the use of yin and blood tonifying herbs, fertility signs often show clear improvement. Long or short follicular phases regulate, cervical mucus increases, menstrual blood quantity and quality improves, and basal body temperature charts become more even. Correspondingly, western lab tests often show improvement in follicle and endometrial lining development.

Ovulatory Phase

When the main developing follicle becomes large enough and estrogen reaches a certain level, ovulation will occur. Prior to ovulation, the hypothalamus and pituitary gland again play a major role as LH (luteinizing hormone) is released. This causes the "LH surge" which occurs about 24 hours prior to ovulation and is detected by an ovulation predictor kit.

In a normal, healthy ovulation, the basal body temperature chart will show a quick rise in temperature with the LH surge, and temperatures will then stay relatively high throughout the second half of the cycle. This is indicative of the quick change from yin dominance in the follicular phase to yang dominance in the luteal phase. Ovulation itself depends on the yin and blood being at their fullest, and the ensuing transformation of full yin to yang.

Yin at its fullest corresponds to the secretion of ovulatory cervical mucus and follicle growth at its peak. As it changes to yang, activity and movement are expressed as the dominant egg bursts forth from the follicle. This process of ovulation is dependent on the strength and fullness of yin, the ability to mobilize yang, and the

NOURISH REN & CHONG FORMULA

Chinese Yam <i>Shan Yao</i>	12%
Angelica Sinensis <i>Dang Gui</i>	12%
White Peony <i>Bai Shao</i>	12%
Cured Rehmannia Root <i>Shu Di Huang</i>	10%
Cornelian Cherry <i>Shan Zhu Yu</i>	9%
Lycium Fruit <i>Gou Qi Zi</i>	9%
Salvia <i>Dan Shen</i>	8%
Gardenia <i>Zhi Zi</i>	8%
Tree Peony Root Bark <i>Mu Dan Pi</i>	5%
Poria <i>Fu Ling</i>	5%
Asian Water Plantain <i>Ze Xie</i>	5%
Tangerine Peel <i>Chen Pi</i>	5%

movement of qi and blood to facilitate transition.

Specific treatment strategies in this stage are applied when ovulation is early, delayed, or poor in general. This may be seen in long cycles, in basal body temperature charts that are not biphasic (low temperatures in the follicular phase, higher temperatures in the luteal phase), or when ovulation predictor tests show no clear ovulation. Some ovulatory problems such as polycystic ovary syndrome (PCOS) and amenorrhea may be more complicated and require specific herbal treatment to address the particular problem.

The heart is also involved in ovulation through the activity of the *bao mai*, the collateral connecting the heart to the uterus. The *bao mai* is one of the pathways by which the action of the heart qi and blood descend to the reproductive organs, keeping them nourished and facilitating movement. The health of the heart and liver are key energies in the activity and vitality of transitions affecting the uterus.

Ovulation and the transition to the luteal phase of the cycle can be inhibited by stagnation of qi, blood, and/or phlegm. Pain at ovulation or inability to ovulate in a timely manner may be an indication of problems with this transitional movement.

Mobilize Essence Formula (*Fu Ren Bu Yin Pian*) is used for mid-cycle support. The formula invigorates the blood and removes stasis, while promoting a healthy yin foundation and the ability for yang to mobilize at ovulation. Herbs during this phase of the cycle are generally administered beginning about 3 days before ovulation, or when ovulation should ideally occur, until 2 days after ovulation.

Luteal Phase

After the egg is released at ovulation, the sperm and egg travel to meet in the fallopian tubes, where a successful sperm will penetrate and fertilize the egg. The egg must be fertilized in the fallopian tubes within about 12 hours of ovulation, then it continues moving to the uterus to implant in the endometrial lining. Implantation begins about 7 days after ovulation. The necessity of healthy yang to support movement and activity in this phase is clear.

After ovulation, the corpus luteum is formed at the

site on the ovary wall where the follicle released its egg. This gland secretes progesterone keeping the endometrium rich in hormones and nutrients and maintaining a healthy environment for implantation. It also inhibits the development of new eggs. Progesterone is the key hormone in the luteal phase of the cycle and is evident in the higher basal body temperatures during this time.

The luteal phase is dominated by qi and yang, but is also dependent on a good foundation of yin and blood. In order for implantation to occur, the uterine lining must be healthy and "receptive". The endometrium must be thick, moist, and rich in blood and nutrients, a very yin environment in which the fertilized egg burrows until it is completely buried by the end of the cycle.

Support of this phase generally begins with herbs that tonify the yang and qi, often including herbs to support the yin and/or blood as well. In Chinese medicine gynecology,

it is common practice to add yin tonic herbs when treating the yang. Yin herbs are included to support the foundation or root of the yang, and to protect the yin from the warming nature of yang tonics.

In infertility treatment, ideally the yin and blood were already well nourished in the follicular phase, and cleared of stasis in the menstrual phase. In the luteal phase it is appropriate to continue this support of yin and blood.

Problems of the luteal phase may be seen in significant drops in basal body temperatures in the second half of the cycle, in progesterone insufficiency, problems with implantation, and the tendency to miscarriage. Although pre-menstrual stagnation is not itself an indicator of an infertility problem, it may well compound the difficulty, so

addressing the liver may be employed as a secondary treatment principle.

Yuan Support Formula (*Jia Wei Jian Gu Tang*) supports the luteal phase well by tonifying and invigorating the yang and the spleen qi. The formula has been modified with herbs to support the yin and blood, to move liver qi stagnation, and calm the spirit.

MOBILIZE ESSENCE FORMULA

Mimosa Tree Bark	<i>He Huan Pi</i>	.....12%
Spatholobus	<i>Ji Xue Teng</i>	..... 11%
Angelica Sinensis	<i>Dang Gui</i>	..... 9%
Salvia	<i>Dan Shen</i>	..... 9%
Ligustrum	<i>Nu Zhen Zi</i>	..... 9%
Cuscuta	<i>Tu Si Zi</i>	..... 9%
Dipsacus	<i>Xu Duan</i>	..... 9%
White Peony	<i>Bai Shao</i>	.....8%
Poria	<i>Fu Ling</i>	..... 7%
Red Peony	<i>Chi Shao</i>	..... 7%
Ligusticum	<i>Chuan Xiong</i>	..... 5%
Carthamus	<i>Hong Hua</i>	..... 5%

YUAN SUPPORT FORMULA

Polygonum Vine	<i>Ye Jiao Teng</i>	..... 10%
Chinese Yam	<i>Shan Yao</i>	.....10%
Cuscuta	<i>Tu Si Zi</i>	.....10%
Angelica Sinensis	<i>Dang Gui</i>	..... 9%
Dipsacus	<i>Xu Duan</i>	.....9%
White Peony	<i>Bai Shao</i>	..... 9%
Codonopsis	<i>Dang Shen</i>	..... 8%
White Atractylodes	<i>Bai Zhu</i>	..... 8%
Poria	<i>Fu Ling</i>	..... 8%
Eucommia Bark	<i>Du Zhong</i>	..... 7%
Lycium Fruit	<i>Gou Qi Zi</i>	..... 6%
Bupleurum Root	<i>Chai Hu</i>	..... 6%

ENDNOTE

¹Hunt, PA, et. al., The Bisphenol A Experience: A Primer for the Analysis of Environmental Effects on Mammalian Reproduction, *Biol Reprod*, May 20, 2009.

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<p style="text-align: center;">1) Menstrual Phase Chong Release Formula <i>(Jia Wei Tao Hong Si Wu Tang)</i></p> <ul style="list-style-type: none"> ● Yin and blood gradually decrease ● Ren and chong become empty ● Blood should be fully expelled and stagnation in the uterus cleared 	<p style="text-align: center;">2) Follicular Phase Nourish Ren & Chong Formula <i>(Jia Wei Gui Shao Di Huang Wan)</i></p> <ul style="list-style-type: none"> ● Yin and blood gradually build to fill the ren and chong ● Ovarian follicles are growing, estrogen levels are rising ● Yin and blood are dominant ● Basal body temperatures (BBT) stay relatively low
<p style="text-align: center;">3) Ovulatory Phase Mobilize Essence Formula <i>(Fu Ren Bu Yin Pian)</i></p> <ul style="list-style-type: none"> ● Follicles have been developing and largest prepares to release egg ● Growth of yin must be "exuberant" in order to induce the yang movement of ovulation ● Ovulation occurs with a quick change of yin to yang ● BBT temperatures rise quickly 	<p style="text-align: center;">4) Luteal Phase Yuan Support Formula <i>(Jia Wei Jian Gu Tang)</i></p> <ul style="list-style-type: none"> ● Progesterone becomes important ● Qi and yang are dominant ● Yin and blood remain important as material basis of yang and qi ● Fertilization and conception are dependent on dynamic action of yang ● BBT temperatures are ideally at least 4/10 degree higher than in follicular phase
<p style="text-align: center;">Pre-Menses</p> <ul style="list-style-type: none"> ● Yang and qi should be strong and full, and move freely ● As qi builds, stagnation may occur; heat easily generates from stagnation ● A strong foundation of yin is necessary to root yang ● Yang heat may enter the blood ● Typical formulas address heat and liver qi stagnation, such as Free & Easy Wanderer Plus <i>(Jia Wei Xiao Yao San)</i> 	