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Polycystic Ovarian Syndrome

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Polycystic Ovarian Syndrome

Introduction

Imagine treating a teenaged patient whose parents have sought acupuncture to help relieve the daughter's anxiety and irregular periods. During initial observations and review of her medical history, you notice the teenager has excess, thick facial hair and severe acne. She craves sweets and for the past year has been steadily gaining weight, particularly in the midsection. She also informs you since menarche at age 11, her periods have been irregular. Suspecting a hormonal imbalance, you recommend the patient has her hormone levels assessed by an endocrinologist or gynecologist. Lab results reveal elevated blood glucose levels and free testosterone levels. The endocrinologist concludes the 15 year old has polycystic ovarian syndrome (PCOS) and prescribes Metformin. The mother is completely surprised and inquires, "Isn't PCOS something women who are trying to get pregnant have?"

Initially called Stein-Leventhal Syndrome for the doctors who first identified this condition, PCOS is a complex endocrine imbalance affecting women worldwide. PCOS is the most common endocrine disorder affecting women of childbearing age—approximately 6 – 10 % of women in this age range. The condition is also seen in prepubescent girls as early as 9 or 10 years old.

PCOS is not per se a disease but rather a pattern of symptoms including weight gain (especially around the waist), androgenism, balding, anovulation, infertility, irregular periods (anovulation disorder), insulin resistance, small ovarian cysts, slow metabolism, and depression. PCOS is not related to one particular dysfunction, rather it is a condition of multiple hormonal imbalances.

The term polycystic ovarian syndrome (or polycystic ovary syndrome) is somewhat a misnomer. It is worth mentioning that although the syndrome's name includes the term 'polycystic,' some patients may not have ovarian

cysts. Alternatively, the presence of ovarian cysts does not necessarily mean the patient has PCOS.

Patients with PCOS, like other syndrome-type conditions (e.g., fibromyalgia and chronic fatigue syndrome), may suffer from symptoms for years before a final diagnosis since there is no universal marker for diagnosing the condition. While PCOS is typically associated with anovulation and infertility, some women may not recognize they have a problem until they attempt to conceive. It is likely that as an acupuncturist, you may have a patient who comes to you for fertility treatments who has been diagnosed with this syndrome. This course provides a general overview of the Western and TCM pathophysiology and treatment of PCOS.

Pathophysiology, Diagnosis, and Treatment

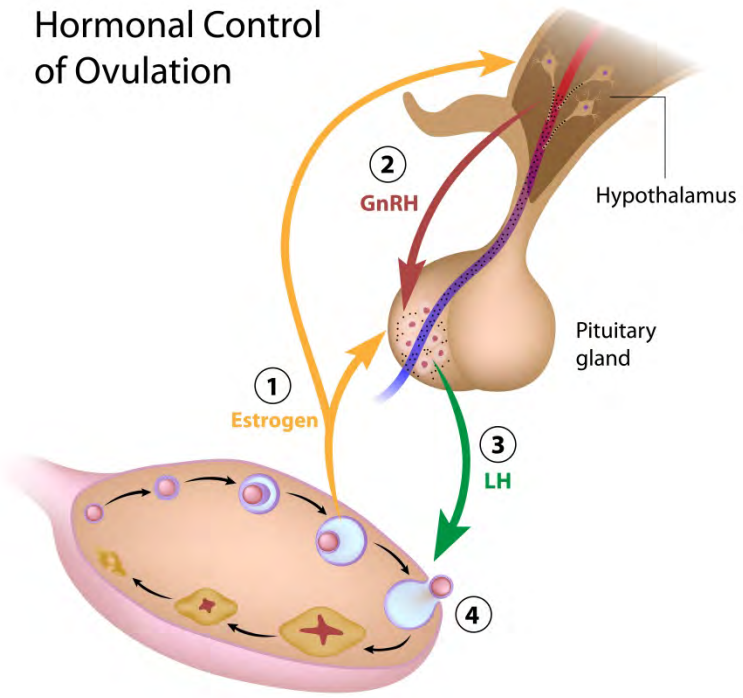
As already mentioned, PCOS is a condition of multiple hormonal imbalances. More specifically, we could say PCOS is a neuroendocrine syndrome because the sympathetic nervous system is greatly affected. PCOS commonly involves dysfunction of the pituitary, ovaries, pancreas, adrenals, and/or thyroid. Furthermore, PCOS can lead to cardiovascular disease as well as other conditions.

Endocrine System Review

To better understand PCOS, let's review how the endocrine system works and, in particular, how the pituitary functions and the link between insulin resistance and androgen levels. Recall the pituitary has two sections: the anterior and posterior lobes. In the anterior lobe, a number of key endocrine simulating hormones are produced affecting the adrenals, reproductive organs, and growth. These hormones include:

- *Growth hormone* affects most cells of the body.

- *Adrenocorticotropic hormone* affects the adrenals and stimulates release of cortisol and aldosterone.
- *Thyroid-stimulating hormone (TSH)* causes the thyroid gland to secrete thyroid hormone. In PCOS, an irregular or disrupted pituitary feedback loop affects TSH levels.
- *Prolactin* is an important hormone relative to PCOS because prolactin can greatly affect ovulation, which we will learn about later.
- *Follicle stimulating hormone (FSH)* stimulates the ovaries in women to develop/grow follicles, and in men FSH stimulates formation of sperm.
- *Luteinizing hormone (LH)* stimulates the ovaries to release estrogen and progesterone in women and the testes to release testosterone in men. Luteinizing hormone levels are detected in ovulation prediction kits.



The posterior lobe produces two hormones affecting the kidneys, blood vessels, uterus, and breast tissue. The posterior lobe of the pituitary produces oxytocin. Recall oxytocin is the hormone involved in labor contractions and milk letdown.

Research has shown a high hereditary predisposition in PCOS patients. Genes involved in regulating multiple hormones may either be over-expressed or under-expressed. However, no one single contributory gene has been isolated for PCOS. Women are more at risk for the syndrome when they have mothers or sisters who also have insulin resistance, diabetes, or anovulation. Interestingly, researchers found that when a male had female relatives with PCOS, they were ***also*** more at risk for developing insulin resistance or diabetes. Scientists have noted a number of genetic mutations in the insulin, androgen, and ovarian pathways. Also, a direct link has not been made yet, but scientists are looking at a possible connection between the hormone leptin and PCOS. Other possible PCOS pathways may involve the genes involved in formation of tumor necrosis factor receptor (TNF-R), enzymes involved in the adrenal androgen pathway, androgen-producing tumors, and Cushing's disease. Additionally, gene expression for the syndrome may also be affected by factors other than a heredity predisposition, such as environmental factors. For instance, the following stimuli may also trigger PCOS:

- Poor nutritional status or diet
- High toxin load, e.g., medications and phytoestrogens
- Alcohol, tobacco, and marijuana use. Researchers have discovered that mothers who use tobacco or marijuana during pregnancy may damage some developing primordial follicles in female fetuses leading to a higher risk of PCOS later in life for those female offspring.

The important thing to remember is PCOS has no one single cause and no one single symptom. In general, there is an error within the pituitary feedback system. Many factors may alter gene expression, which in turn triggers a cascade of chemical signaling that disrupts the release of particular hormones and numerous feedback systems regulating those

hormones. Because the pituitary function is interrupted, the patient may experience:

- Early or late onset of menarche
- Irregular periods
- Hypothyroidism
- High levels of androgens such as testosterone

PCOS is often associated with an insulin imbalance. Excess levels of insulin may in turn increase the production of androgens. Elevated androgens may contribute to insulin imbalance. This cycle leads to patterns of acne, excessive hair growth, anovulation, and weight gain.

PCOS Pathway

PCOS Symptoms

Women presenting with PCOS exhibit a range of physical symptoms along with abnormal lab results. Some patients initially seek medical attention because of unusual weight gain, depression, acne, irregular periods, infertility, or excessive/abnormal hair growth. Some women have many of these symptoms, while others may only exhibit a couple. One common PCOS symptom is weight gain, especially around the midsection. However, not all PCOS patients are overweight; some may also be thin or normal weight. Another common symptom of PCOS is excessive or abnormal hair growth. When hair grows on women in a course and thick pattern, like male hair (on the chin, cheeks, upper lip, back, chest, stomach, inner thighs, and buttocks), the pattern is called *hirsutism*. When male-patterned baldness occurs in women, the condition is called *androgenic alopecia*. Women with PCOS may exhibit both hirsutism and androgenic alopecia. Some women with PCOS may experience flaps of skin on eyelids, armpits, neck, and

back or darkening of skin in thick patches. The patches may occur under the arms, on the neck, and under the breast as well as other areas of the body. The excess skin is called a skin tag, or *acrochordon*. Thick, dark skin patches are due to excess insulin and are called *acanthosis nigricans*.

Common PCOS Symptoms
• Anovulation • Infertility • Ovarian cysts and enlarged ovaries • Pelvic pain • Irregular or absent menstrual periods • Acne, oily skin, dark patches of skin, dandruff • Skin tags • Obesity, especially in midsection • Hirsutism • Male-patterned baldness • Anxiety or depression • Sleep apnea • Abnormal hormone levels

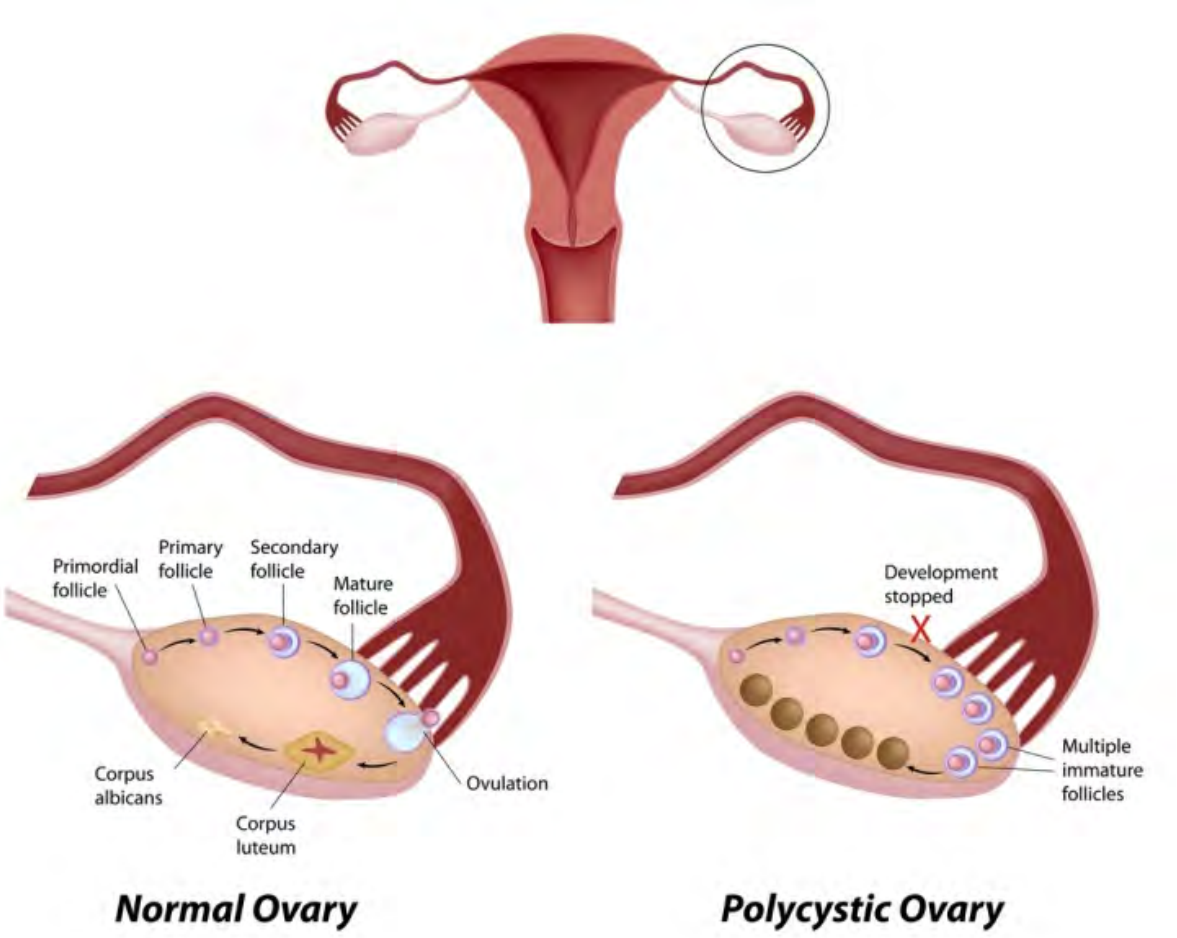
Ovarian Cysts

Ovarian cysts are present in some but not all women who have PCOS. Ovarian cysts are a common gynecological complaint and the presence of one or more ovarian cysts does not mean a patient has PCOS. Ovarian cysts can be either functional or pathological. Cyst formation is a normal step in the reproductive process and occurs as a critical step in the development of an egg as well as in the production of estrogen and progesterone.

Functional cysts are usually identified as follicular or corpus luteal. *Functional cysts may also be called physiological cysts* because they occur

within normal reproductive processes (they appear and disappear), and *do not require removal*. Moreover, functional ovarian cysts *do not lead to ovarian cancer*.

Pathological cysts occur as a result of a disease process and are not part of the normal reproductive processes. Pathological cysts may need to be removed and will not go away without treatment. Common pathological ovarian cysts include cystademonas, endometriomas, dermoid cysts, and polycystic ovaries. In PCOS, ultrasound may show an enlarged ovary with a pearl-like formation of cysts, which are of the pathological type. The cysts are pathological because they occur when an egg matures within a sac (tiny balloon-like structure) and is not released or ovulated. The normal development of the egg/follicle is arrested due to a variety of factors. The cysts produce androgens, which further block egg development and prevent the egg from being released. The androgens the cyst produces enter the bloodstream and disrupt the hypothalamic-pituitary-ovarian (HPO) axis. Please note with PCOS, many cysts will form in a ring-like formation like a string of pearls *near* the surface of the ovary—hence the term *polycystic ovary*. Furthermore, the ovary will appear enlarged and have a thick, shiny surface.



Anovulation and PCOS

Women with PCOS may not ovulate due to a number of reasons. The female body produces androgens in the ovary, adrenals, and fat tissue. About 25% of a woman's testosterone is produce in her ovaries. Remember, women still only produce about 10% of the testosterone produced by their male counterparts. When the ovaries produce too much androgen, such as testosterone, those circulating androgens inhibit ovulation and produce other unwanted side effects.

Abnormally low levels of estrogen (in the form of estradiol) may also contribute to the follicle not releasing an egg. In terms of estrogen, remember estrogen comes in three different forms. Estrone (E1) is usually

higher in post-menopausal women and is produced by the ovaries and fat cells. *17-beta estradiol (E2) is the form of estrogen we normally are concerned with in menstruating women.* E2 is produced by the ovaries and is very important in normal female body function. It promotes normal fertility, energy metabolism, mood (i.e., serotonin levels), bone density levels, sleep, hair and skin quality, vaginal lubrication and pH levels, as well as insulin-glucose regulation. PCOS disrupts ovarian function and leads to low estradiol levels and irregular cycles as well as mood/emotional problems and eating disorders. A patient may have high E1 levels but still have symptoms of low estrogen due to low estradiol levels. **Note**: Estriol (E3) is the estrogen produced by the placenta, so it appears in negligible amounts in non-pregnant women.

Follicle stimulating hormone (FSH) stimulates follicles to develop immature oocytes (eggs) while luteinizing hormone (LH) stimulates the release of a mature egg from the follicle. An improper LH/FSH ratio can further contribute to anovulation. The ratio of LH to FSH should be about 1:1. A LH to FSH ratio greater than 2:1 or 3:1 in pre-menopausal women may be considered indicative of PCOS. A patient might think she is ovulating monthly because she checks with an ovulation predictor kit, which measures elevated LH levels. However, the patient may actually be anovulatory due to an improper LH/FSH ratio.

Abnormal prolactin levels may be yet another reason for anovulation. Normally, prolactin suppresses estradiol and menstruation so a woman's resources will go to lactation. High prolactin also suppresses testosterone (leading to a slower metabolism), which contributes to the weight gain. High prolactin levels cause enlarged breasts, low libido, headaches, and depression. If a non-pregnant or non-lactating woman has elevated prolactin levels, she can become anovulatory as a result. Anovulation further leads to infertility, which is a chief complaint of women suffering from PCOS, as well as weight gain, depression, and so on.

Abnormal Metabolism, Food Cravings, and Insulin Resistance

Diabetes and metabolic syndrome often occur concomitantly with PCOS. Metabolic syndrome is a very serious condition and involves what is called the *deadly quartet*. The *deadly quartet* is high blood sugar, high cholesterol, high blood pressure, and obesity.

Note: PCOS patients may experience hypoglycemia or hyperglycemia. However, in PCOS excess blood glucose (hyperglycemia) and high insulin levels are somewhat more common than low blood sugar levels. Additionally, there appears to be a relationship between high levels of insulin and high androgens in the blood. In particular, high testosterone has been shown to disrupt blood sugar stability promoting high insulin levels. With PCOS, the patient may crave sweets and simple carbohydrates in effort to reduce the excess insulin in her bloodstream, and as a result put on excess weight due to impaired metabolism. Abnormal testosterone (androgens) also affects female metabolism further contributing to weight gain. In turn, the excess weight creates a pathological hormonal cycle because obesity contributes to insulin resistance and increased androgens.

Some patients with PCOS may have thyroid issues. However, PCOS does not directly create thyroid dysfunction. There is not a direct hormonal correlation between the thyroid hormones and PCOS like there is with insulin and testosterone. Of course, either hypothyroidism or hyperthyroidism will affect a patient's metabolism and indirectly contribute to PCOS symptoms.

Acne and Hirsutism

Thirty to forty percent (30 – 40%) of PCOS patients experience severe acne. As much as 70% of PCOS patients may have hirsutism. The acne is usually much worse than either adolescent or pre-menstrual acne. In fact, some patients even experience disfiguring cystic acne.

Both the acne and excessive hair growth are signs of excessive blood testosterone levels. Testosterone is an anabolic hormone, which means it affects physical appearance of the body, such as body composition and

mass. The effects of higher testosterone levels in men may be desirable, such as large bulging muscles or thick facial hair, but these effects are undesired in women. In fact, excessive testosterone (or hyperandrogenism) in PCOS patients can be blamed for acne, oily skin, excessive and coarse hair, insomnia or restless sleep, irritability, anxiety, anovulation, and obesity.

PCOS Related Statistics

Condition or Symptom	Statistic
Obesity or weight gain	• Obesity is common in 50 – 60% of women with PCOS.
Diabetes or pre-diabetes	• More than 50% of women with PCOS will have either pre-diabetes or diabetes before age 40 (as many 15 – 20% of these women will develop full diabetes if not treated).
Heart attack	• PCOS patients age 40 - 49 years have a four – seven times higher chance of experiencing a heart attack.*
Androgen excess disorder	• Worldwide, 90 – 120 million women suffer from PCOS. • As many as 80 - 90% of women with excess androgens have a form of PCOS,
Hirsutism	• Sixty to seventy percent (60 – 70%) of PCOS patients have some degree hirsutism. (Some texts say the percentage of hirsutism may be even higher, as much as 80 – 90%).
Infertility	• Ovarian related issues such as PCOS may cause 25% of infertility cases in women. (Other causes of infertility include uterine disorders, history of pelvic inflammatory disease or STD, and unidentifiable causes).
Menstrual irregularities	• Secondary amenorrhea can occur in 30 – 40% of women with PCOS. • Oligomenorrhea is common in 85 – 90% of PCOS patients. • About 70 – 80% of all PCOS patients have some type of menstrual irregularity.
High prolactin levels	• High prolactin levels may occur in as many as 40 – 50% of PCOS patients.
Severe acne	• Thirty to forty (30 – 40%) of PCOS patients have severe acne.

Note: PCOS may to be related to high sympathetic nervous system activity and elevated β-endorphin levels. High levels of β-endorphins are also associated with high insulin levels and stress—major factors contributing to cardiovascular disease.

Biomedical Diagnosis and Treatment of PCOS

Some patients find that obtaining a PCOS diagnosis is not easy. Currently, experts recommend at least two of the following features must be present for a PCOS diagnosis:

- Reduced ovulation or anovulation (menstrual irregularity)
- Hyperandrogenism
- Polycystic ovaries

The problem is a definitive PCOS diagnosis may be overlooked because symptoms from patient to patient vary, and some patients fail to reveal all symptoms during doctor visits. For instance, if a patient seeks help from a dermatologist for acne, the patient may fail to also mention that she only has a period once every three months. A 2005 Australian survey indicated a disparity between gynecologists and endocrinologists over what constitutes a PCOS diagnosis. While endocrinologists tended to require presence of menstrual irregularity for a diagnosis, gynecologists tended to look more for evidence of polycystic ovaries when diagnosing. Regardless of the medical specialty, the PCOS diagnosis should be based on the following information:

- Medical history
- Physical examination (including BMI measurements, blood pressure, evaluation of hair growth, skin assessment, etc.)
- Pelvic exam and ultrasound test
- Blood chemistry test including but not limited to fasting blood glucose and fasting insulin, estradiol, FSH, TSH, LH, adrenocorticotropin hormone (ACTH), free testosterone, prolactin, lipid panels, sex hormone binding globulin (SHBG), cortisol, hemoglobin A1C, ferritin, etc.

Timing of glucose testing is important since women may have undesirable physical changes in the luteal phase of their cycle when progesterone is predominant. Typical symptoms associated with high progesterone levels include bloating, cravings, and binges we commonly associate with PMS.

One PCOS expert suggests if a patient is menstruating regularly to have the patient note any patterns relative to eating sweets or drinking alcohol and record those. If the patient is not menstruating regularly, then she should request glucose testing when the symptoms are worse. If the symptoms are worse the week before menses, then consider testing cycle days 20 – 24, or when the symptoms are worse. In addition, when the patient is not menstruating or ovulating regularly, it is very helpful for the patient to maintain a basal body temperature (BBT) chart each month. The BBT can help track fluctuations of FSH, LH, and progesterone, which can tell the patient and caregivers if the endocrine system is functioning as it should.

When diagnosing PCOS, it is important to differentiate PCOS from Cushing's disease. Cushing's disease exhibits some of the same symptoms as PCOS, such as obesity, hypertension, mood swings, and endocrine dysfunction. However, the key difference is Cushing's disease is an endocrine *disease*, not a syndrome, resulting from a specific adrenal/ pituitary dysfunction. To rule out Cushing's disease, a thorough blood chemistry analysis should include cortisol testing. Follow-up testing for Cushing's may require imaging, such as a computed tomography (CT) scan or magnetic resonance imaging (MRI), to check for the presence of a pituitary tumor. Adrenocorticotrophic hormone (ACTH) testing can also help determine whether the patient has adrenal or pituitary dysfunction. Once a differentiation has established a PCOS diagnose, treatment can begin.

Western treatment for PCOS takes into account a variety of factors. Primarily, the medical doctor will look at whether the patient's lab results and physical examination show insulin resistance and/or effects of hyperandrogenism. Pharmacological treatment includes drugs such Spironolactone (anti-androgenic drug); aromatase inhibitors, Metformin (an insulin-lowering drug), Clomiphene (an infertility drug), oral contraceptives/ estrogen-progestin (to create cyclic periods). In some cases, a patient may have ovarian surgery to remove cysts.

Natural therapies are also currently being used for PCOS symptoms. Inositol and D-Chiro-Inositol supplements have been used to help balance

blood sugar. A study published in a 1999 issue of the New England Journal of Medicine cited 19 out of 22 (86%) women treated with D-Chiro-Inositol ovulated compared to the placebo group in which only 6 out of 22 (27%) women ovulated. Some clinicians have also seen success with the supplement, N-acetylcysteine. Chasteberry (*Vitex agnus-castus*) is a Western herb traditionally used to treat a variety of gynecological issues, such as PCOS.

Lastly, melatonin is widely used for insomnia and is currently recommended by some doctors to treat infertility. In practice, I have encountered patients taking melatonin for infertility. However, PCOS patients should exercise caution regarding melatonin use because melatonin has been associated with the effect of increasing cortisol levels. These effects where seen in women not men. In addition, melatonin may exacerbate autoimmune issues.

TCM Treatment of PCOS

Etiology

Phlegm and damp retention are commonly present in PCOS cases. Excess phlegm and dampness may not be the only patterns seen with PCOS, which often involves linked patterns of both deficiency and excess. Yang Qi deficiency is commonly seen and in itself may produce phlegm because the qi is not moving and fluids are simply condensing. There also may be latent heat, which the body traps in fluid (damp-heat). Further, it's common for some patients to show signs of emotional stress with Liver Qi stagnation simply because of the physical stress they are experiencing.

It is important to keep in mind that PCOS patients vary. A patient's physical appearance may not be typical of a person with excess phlegm, but if further examined, the practitioner will note signs pointing to underlying

phlegm or damp retention. These signs may include enlarged ovaries, aching joints, cystic acne, or tendency to develop yeast infections. Other signs of excess dampness and phlegm include irregular menstruation, obesity, insulin resistance, eating disorders, anovulation, slow metabolism, oily skin, etc. In some cases, the phlegm retention or obstruction may not manifest in obvious external signs but analysis of the endocrine function may point to phlegm obstruction. One fertility expert notes most women with PCOS ovulate late in the cycle, if at all. In those cases, phlegm obstruction may produce a manifest as a basal body temperature chart with "an erratic, flat line across the graph." A normal BBT should be biphasic, not an erratic line across the graph. In practice, I have seen this type of BBT chart with a PCOS patient who did not show any other external signs of phlegm retention.

TCM Diagnosis and Treatment

As mentioned above, PCOS is a disorder which can manifest many symptoms pointing to both excess and deficiency patters according to TCM theory. PCOS patients frequently exhibit either phlegm or damp symptoms with other underlying patterns. The practitioner should take into account the complexity of each case, and differentiate as much as possible.

Pattern Differentiation

In the remainder this course, we will discuss acupuncture protocols and herbs for treating the following patterns according to TCM theory. The following pattern differentiation and treatments include infertility because in practice, many PCOS patients seek acupuncture to assist with conceiving. Six patterns are discussed below:

- Obstruction of phlegm and dampness
- Heart blood and Spleen Yang deficiency
- Kidney Yin deficiency
- Kidney Yang, Essence, and Qi deficiency
- Liver Qi stagnation and Blood stasis
- Blood heat

Six Patterns

1. **Phlegm and damp retention**— Patients may be overweight (**Note**: Some patients may be thin or average weight and still have this pattern), abdominal distension, gas and bloating, mucus in the blood, heavy vaginal discharge, phlegm, chest distension, dizziness, vertigo, feeling of heaviness, prolonged menstrual cycles, and in severe cases amenorrhea and infertility

T – Normal or pale, swollen with thick white or greasy coat (coating may also be yellow)

P – Slippery

2. **Heart blood and Spleen Qi deficiency**— Palpitations, insomnia, poor memory and concentration, scanty and pale menstrual flow, pale complexion, blurred vision, dizziness, poor appetite, gas and bloating, fatigue, shortness of breath, depression, shortness of breath, long-term infertility

T – Pale with thin, white coating

P – Weak, think or fine, choppy

3. **Kidney and Liver yin deficiency**– Short menstrual cycles, scanty and pale menstrual flow, few or no blood clots, insomnia, dry mouth, may have night sweats and/or 5 palm heat, tinnitus, dizziness, floaters, blurred vision, weakness in the low back and legs, or lower back pain, irritability, difficulty conceiving

T – Red (sparse or no coating)

P – Rapid, thready or thin

4. **Kidney yang, essence, and qi deficiency**– Infertility, prolonged or short menstrual cycles, scanty and pale menstrual flow, weakness in the low back or legs, lower back pain, cold extremities, low libido, fatigue, may have congenital health issues, frequent and copious urination, frequent urination at night, dizziness, tinnitus

T – Pale, swollen, wet

P – Weak, deep especially in the rear positions

5. **Liver qi stagnation and blood stasis** – Emotionally stressed, depression, irritability, mental restlessness, PMS, irregular or delayed periods, breast tenderness or pain, dark colored menstrual flow with blood clots, lots of cramping, may ovulate late, infertility

T – Normal or purplish, may have distended veins under the tongue

P – Wiry or choppy

6. **Blood heat** – Short cycles (luteal phase may be short), may have a period more than once a month, heavy menstrual flow, sensation of heat during menses, thirst, irritability, mental restlessness, insomnia, acne

T – Red

P – Rapid, full

Acupuncture

The following basic points may be used with all patterns:

- Ren 5 – Induces menses (**Note**: Avoid deep needling and during the period)
- Ren 6 –Regulates Qi; tonifies Qi, Yang and Yuan Qi
- Zigong – Extra point for uterus
- ST 28 –Promotes Qi flow
- SP 6 – Major gynecological point, Yin, blood, dampness
- KID 8 – "Endocrine" point
- P 6 – Calms the mind, regulates blood

For Deficiency (Xu) patterns—Tonify the Ren and Chong using LU 7 and/or SP 4.

For Excess patterns— Drain excess with LU 7 + KD 6 and/or SP 4 + P6 using a cross insertion pattern to regulate the Ren and Chong.

1. **Obstruction of phlegm and dampness**— Resolve dampness and transform phlegm, open channels. Use basic points plus:
    - SP 9 – Resolves dampness in the lower Jiao
    - ST 40 – Transforms phlegm, resolves dampness, clears mind
    - ST 36 – Tonifies Qi and blood, expels wind and damp from the channels
    - GB 26 – Damp-heat in lower Jiao, irregular menstruation due to damp-heat, vaginal discharge, regulates uterus and menstruation
    - BL 32 – Regulates the lower Jiao
    - Ren 9 – Controls the water passages

- Ren 12 – Treats dampness, tonifies Spleen and Stomach
- Ren 17 – Regulates Qi, opens chest

2. **Heart blood and Spleen Qi deficiency**— Tonify Heart blood, tonify Spleen and Spleen Qi. Use the basic points plus:
   - ST 36 – Tonifies Qi and blood, raises the Yang
   - LV 8 – Nourishes Liver Blood
   - BL 15 -- Treats anxiety due to Heart blood or yin deficiency, calms the mind, moves stagnant blood
   - BL 17 –Tonifies blood and Qi, moves stagnant blood
   - BL 20 – Tonifies Spleen Qi and Spleen Yang
   - Ren 12 – Tonifies Stomach and Spleen
   - Ren 6 – Tonifies Qi, Yang and Yuan Qi

3. **Kidney and Liver Yin deficiency**— Tonify Kidney Yin and Liver Yin. Use basic points plus:
   - KID 3 – Tonifies the Kidneys, nourishes the Essence, regulates the uterus, treats low back pain
   - KID 6 – Nourishes Yin, cools blood, calms the mind, regulates the uterus
   - BL 23 – Tonifies the Kidneys, nourishes the Essence
   - BL 52 – Tonifies the Kidneys, psycho-emotional support
   - BL 18 – Benefits the Liver and Gallbladder
   - LV 8 – Nourishes Liver Blood
   - Ren 4 – Nourishes Yin and blood, strengthens Yang, tonifies Kidney and Yuan Qi, regulates the uterus and menses

4. **Kidney yang, essence, and qi deficiency**— Tonify Kidney Yang, Essence, and Qi. Use basic points plus:
    - KID 3 – Tonifies the Kidneys, nourishes the Essence, regulates the uterus, treats low back pain
    - KID 13 – Tonifies the Kidneys, nourishes the Essence
    - BL 23 – Tonifies the Kidneys, nourishes the Essence
    - BL 32 – Regulates the lower Jiao, strengthens the Kidneys
    - BL 52 – Tonifies the Kidneys, provides psycho-emotional support
    - Du 4 – Tonifies Kidney Yang, benefits Essence and Yuan Qi
    - Ren 4 – Nourishes Yin and blood, strengthens Yang, tonifies Kidney and Yuan Qi, regulates the uterus and menses

5. **Liver Qi Stagnation and Blood Stasis**— Soothe and regulate Liver, move Qi and Blood, regulate Chong and Ren by draining excess. Use basic points plus:
    - LI 4 – Promotes Qi circulation, unblocks the channels
    - GB 24 – Promotes Qi circulation, treats hypochondrial pain and distension, also treats damp-heat
    - GB 34 – Unblocks channels, promotes Qi circulation
    - SP 8 – Blood stagnation, treats irregular menstruation and pain
    - SP 10 – Cools blood, moves blood
    - ST 29 – Moves blood (especially in the uterus), tonifies and raises Qi
    - BL 17 – Tonifies blood and Qi, moves stagnant blood
    - BL 18 – Benefits the Liver and Gallbladder
    - BL 19 – Relaxes the diaphragm, reduces stuffiness in the chest

- LV 3 – Promotes Qi circulation, especially Liver Qi
- LV 13 – Promotes Qi circulation, especially Liver Qi, benefits the Stomach and Spleen
- LV 14 – Promotes Qi circulation, benefits the Stomach

6. **Blood heat**— Clear heat, cool blood, regulate menses. Use basic points plus:
   - KID 6 – Calms mind, cools blood, regulates the uterus, nourishes yin
   - LI 11 – Cools blood, clears internal heat, resolves damp-heat
   - BL 17 – Tonifies blood, moves blood
   - BL 40 – Cools blood, moves blood, clears heat and resolves dampness
   - GB 26 – Damp-heat in lower Jiao, irregular menstruation due to damp-heat, regulates uterus and menstruation
   - LV 2 – Clears Liver-fire, treats abnormal menstrual bleeding from heat
   - SP 10 – Cools blood, moves blood
   - Du 14 – Clears heat

TCM Herbal Treatment

TCM treatment of PCOS incorporates herbs, dietary changes, and exercise along with acupuncture. PCOS patients must address any issues in their diet when receiving TCM care. The patient must be advised that it takes at least three (3 months) to regulate menstrual cycles and up as much as 6 – 8 months (180 – 240 days) to impact the egg quality. In other words, TCM

treatment takes time. The TCM pharmacopeia includes numerous herbal formulas to address PCOS symptoms. Some of these formulas include:

- Qi Gong Wan for removing phlegm obstruction
- Jia Wei Xiao Yao San for Qi Stagnation with heat
- Kai Yu Zhong Yu Tang for Qi stagnation depression
- Ba Zhen San for Qi and Blood deficiency

Note: Gymnema Silvestre is an herb used to lower blood sugar, reduce sugar cravings, and treat weight loss. Gymnema acts in a similar way as Metformin (Glucophage), a Western pharmaceutical. Metformin treats insulin-sensitivity and helps to induce ovulation and restore menstrual cycles in some women with PCOS. Because of its ability to work in a similar way as Metformin, Gymnema holds promise for patients with PCOS.

Formula Analysis of *Ba Zhen Tang* (Eight Treasure Decoction)

Ba Zhen Tang is a formula traditionally regarded for tonifying both qi and blood. The name of the formula is based on the fact it contains eight ingredients. Basically, Ba Zhen Tang is a combination of Si Jun Zi Tang (Four Gentleman's Decoction) and Si Wu Tang (Four Substance Decoction). Symptoms for Ba Zhen Tang include pale complexion, palpitations, anxiety, poor appetite, fatigue, pale tongue, and a thin, weak or large, deficient pulse.

The following is a breakdown of this formula and the functions of the herbs:

- **Ren Shen**, *Radix Ginseng*, 6 - 9 g – Ren Shen strongly tonifies Qi, strengthens Spleen and Lung, generates fluids, alleviates fatigue, calms the mind. Along with Shu Di Huang, Ren Shen is a chief herb in this formula
- **Bai Zhu,** *Radix Atractylodis Macrocephelae,* 9 – 12 g. Tonifies the middle Jiao, strengthens the Spleen and dries dampness. Bai Zhu and Fu Ling are one set of deputy herbs in this formula.
- **Fu Ling,** *Sclerotium Poriae Cocos,* 12 – 15 g. Fu Ling strengthens the Spleen and dries dampness. Bai Zhu and

Fu Ling are deputy herbs in this formula, as mentioned above.

- **Zhi Gan Cao,** *Radix Glycyrrhize Uralensis,* 3 – 6 g. Tonifies the Spleen, tonifies Qi, and warms the middle Jiao. Zhi Gan Cao usually also harmonizes the actions of the other herbs in a formula.
- **Dang Gui,** *Radix Angelicae Sinensis,* 12 – 15 g. Dang Gui nourishes the blood. Dang Gui helps regulate the menstrual flow, in particular, and reinforces the action of Shu Di Huang. Dang Gui and Bai Shao act as additional deputies in this formula.
- **Shu Di Huang,** *Radix Rehmanniae Glutinosae Conquitae,* 15 – 18 g. Shu Di Huang nourishes the blood and is one of the chief herbs in this formula.
- **Bai Shao,** *Radix Peoniae Lactiflorae,* 12 – 15 g. Bai Shao nourishes the blood. Along with Dang Gui, it reinforces the actions of Shu Di Huang and serves as a deputy herb.
- **Chuan Xiong,** *Radix Ligustici,* 6 – 9 g. Chuan Xiong invigorates the blood and promotes the flow of qi.

Note: The formula is decocted by adding three slices of Sheng Jiang (Rhizoma Zingiberis Officinalis Recens) and two pieces of Da Zao (Fructus Zizyphi Jujubae) to the other ingredients. Alternative to decocting the herbs, tinctures and powder form may also be used. Ba Zhen Tang can be used long term and is particularly useful following menstruation in rebuilding the blood and Qi reserves.

Case Study

Not all patients with PCOS diagnosis are overweight or have excessive body hair. Take for instance, a young lady in her early thirties who received weekly acupuncture for infertility and delayed menstruation. This patient was a sales professional with a thin, slight physique and cheerful

demeanor. She had no apparent signs of hirsutism or alopecia. However, she was anovulatory and consistently had cycles longer than 40 days. She complained of cold hands and feet. She also said although she appeared upbeat and laid back, her energy level was actually very low and stress levels were high due to her work. When she started coming for acupuncture, she had been taking Metformin for about six months. She had been trying to conceive for about a year and tracking her basal body temperature. Her basal body temperature charts often showed she had difficulty maintaining higher temperatures during the luteal phase of her cycle, indicating possibly low progesterone levels. The acupuncturist asked about the results of her blood test, in particular if her thyroid stimulating hormone and glucose-insulin levels had been checked. The thyroid levels were within normal range, but the results did indicate insulin resistance and her ovaries were polycystic.

The first thing the acupuncturist did with this patient was to educate her on dietary and lifestyle management changes. For instance, the patient liked doing a vigorous form of yoga, which the acupuncturist encouraged the patient to continue, but to also seek out activities for relaxation. The patient was encouraged to eat according to the monthly “cycle.” During the follicular phase (the onset of her period to ovulation), she ate blood building foods and more fruits and vegetables, even citrus fruits and fruits of a cooler nature. Since she wasn’t ovulating after about two weeks, she would eat according to a luteal phase regimen: warming foods, more root vegetables, avoiding cold natured foods and fruits citrus or watermelon that would damage her Yang. The patient also was advised to take an herbal-based iron supplement.

The acupuncture points for this patient included:

- LI 4, LV 3, PC 6 – to treat stress and circulate Qi
- Zigong, ST 29, SP 10 – to move blood and relieve menstrual discomfort
- UB 20, UB 23, ST 36, KD 3, Du 20, and Ren 4 – to tonify Spleen, Kidneys Yang and Qi.

TCM herb formulas included Xiao Yao San (during menses), Ba Zhen Tang (post-period to about day 14) and Si Ni San (during luteal phase).

References

Lab Tests Online, PCOS, http://labtestsonline.org/understanding/conditions/pcos/start/2/

Medscape, Androgen Excess, http://emedicine.medscape.com/article/273153-overview

MedlinePlus, http://m.medlineplus.gov

Merck Online, http://www.merckmanuals.com/professional/gynecology_and_obstetrics/menstrual_abnormalities.html

Developmental Biology, "Oogenesis." 2000, Sinauer Associates, http://www.ncbi.nlm.nih.gov/books/NBK10008/

Office of Women's Health, US Department of Health and Human Services, http://www.womenshealth.gov/publications/our-publications/fact-sheet/polycystic-ovary-syndrome.html

Bensky, D. and Randall, B. Chinese Herbal Medicine: Formulas and Strategies. Seattle, WA: Eastland Press, 1990.

Deadman, P and Al-Khafaji, M. A Manual of Acupuncture. England: Journal of Chinese Medicine Publications, 2001.

Ehling, D. and Swart, S. The Chinese Herbalist's Handbook. Twin Lakes, WI: Lotus Press, 2002.

Kuoch, D.J. Acupuncture Desk Reference. San Francisco, CA: Acumedwest, Inc., 2009.

Lewis, Randine. The Infertility Cure. New York, NY: Little, Brown and Company, 2004.

Maciocia, G. The Practice of Chinese Medicine: Treatment of Disease with Acupuncture and Chinese Herbs. New York: Churchill Livingstone, 2003.

Ni, Daoshing. The Tao of Infertility: A Healing Chinese Medicine Program to Prepare Body, Mind, and Spirit for New Life. New York, NY: HarperCollins, 2008.

Northrup, C. Women's Bodies, Women's Wisdom: Creating Physical and Emotional Health and Healing. New York, NY: Bantam Books, 2010.

Stansbury, J. and Mitchell, S. The PCOS Health and Nutrition Guide. Toronto, Canada: Robert Rose, Inc., 2012.

Steiner-Victorin, E. "Acupuncture in polycystic ovary syndrome: Current experimental and clinical evidence." Journal of Neuroendocrinology 2008; 20: 290-8.

Vliet, E.L. The Savvy Woman's Guide to PCOS. Tucson, AR 2006. HER Place Press.

Wu, Q. and Yip, F. Acupuncture Treatment of Disease: Study Guide. Austin, TX: AOMA, 2004.

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