

Analysis of the mechanism of menstrual cycle regulation based on “pivotal movement”

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Abstract: Based on Huang Yuan-Yu's theory of "pivotal movement", the mechanism of menstrual regulation in women of childbearing age was investigated. It is suggested that the spleen-liver-rush-rush-uterus is the key axis of menstrual regulation in women of childbearing age, and the existing theory that the kidney-tiankui-rush-rush-uterus is the main axis of menarche and menopause in women.

Keywords: pivotal movements; spleen-liver-rush-uterine regulatory axis; menstrual cycle; reproductive age

The menstruation is also known as moon letter, moon event, moon water, letter water, menstrual water, menstrual wait, etc. Su Wen - Shang Gu Tian Zhen Lun" pointed out that "the woman is seven years old, the kidneys are strong two seven and the day sebum to, any vein through, Tai Chong vein Sheng, menstruation to time down, so can have a child seven seven any vein deficiency, Tai Chong vein Sheng decay less, the day sebum exhausted, the earth channel Not through", women menstruation is a sign of female sexual maturity, has the ability to reproduce. Western medicine believes that the regulation of the menstrual cycle is a very complex process, mainly involving the hypothalamus, pituitary gland and ovaries. The hypothalamus secretes gonadotropin-releasing hormone (GnRH), which regulates the function of the ovaries by regulating the secretion of pituitary gonadotropins. The sex hormones secreted by the ovaries in turn have a feedback effect on the hypothalamus-pituitary, forming a complete and coordinated neuroendocrine system called the hypothalamic-pituitary-ovarian axis (HPO). The age of menarche in Chinese women[1] ranges from 9 to 18 years old, with 13 to 16 years old predominating, and the average age of perimenopausal women is 47.9 ± 3.3 years. Chinese medicine has recorded menstruation for a long time, and in gynecological monographs such as "Jingxue Zanbao", "Women's Complete Good Formulas", "Women's Science Summary", "School Notes on Women's Good Formulas", "Jing Yue Quanshu - Women's Rules", and "Fu Qingzheng's Women's Science", a wide understanding of menstruation has been formed, and there are its own unique insights and prescriptions for menstrual diseases. The production and regulation of menstruation has been discussed in various medical texts from the internal organs, qi and blood, meridians and so on, but they are all rather general. Professor Yang Jialin, a famous veteran Chinese medicine practitioner, proposed that the axis of menstruation production. [2], i.e., the kidney-tiankui-rush-uterus axis, is an important link in the production of menstruation, which essentially reveals the mechanism of menstruation production. This axis regulates the 30-year-long female reproductive period, during which women have vigorous sexual function, mature ovarian function and secrete sex hormones, and establish a regular menstrual cycle. However, the regulatory mechanism of the menstrual cycle has not yet been clarified, and the axis of the menstrual cycle in women of childbearing age has not yet been proposed. According to Huang Yuan-you's understanding of menstruation, based on the pivotal movement, the spleen-liver-rush-rush-uterus regulates the menstrual cycle in women.

1. Huang Yuan-you and the "Pivot Movement" Academic Thought

Huang YuanYu name, word YuanYu, respect the yellow emperor, Qibe, Yueren, ZhongJing, the "within" "difficult" "typhoid fever" "gold short" study and have deep work, its medical attainment, more from this. Huang Yuan-young in the fifteenth year of the Qianlong emperor, "the examination of the imperial doctor", because of exquisite medical skills, the Qianlong emperor himself inscribed "the wonderful enlightenment QI Huang" plaque to give it, Huang Yuan-you wrote "typhoid fever hanging solution", "Su Wen hanging solution", "four sages heart source", etc., its "pivot movement The theory of

"pivot movement" was written on the basis of the Four Sages, with clear and precise reasoning and reference to the scriptures.

"Yin and Yang are not yet judged, a gas is mixed ascending is Yang, descending is Yin between the clear and turbid, is called the middle gas, the middle gas, the pivot of the rise and fall of yin and Yang, the so-called earth also"^{[3]1}, the person is lifting and lowering the breath All round body, the spleen is the main rise of the earth, the stomach is the main fall of the earth, the right to rise and fall in the spleen earth stomach earth intersection, is called the middle qi. The spleen earth is left, half up is liver wood, all up is heart fire, the stomach earth is right, half down is lung gold, all down is kidney water. The middle qi rises and falls, which is the birth of yin and yang. Yin is located at the bottom, rising to the left as clear yang, and yang is located at the top, descending to the right as cloudy yin. The five elements, internal organs, yin and yang all depend on the lifting and lowering movement of the middle qi, that is, the pivotal movement. "Ping people on the warmth of the lower clear, to the good transport of the middle qi also"^{[3]52}, the middle qi as the axis, four dimensions such as the wheel, axis transport wheel line, the whole body as a gas flow around, such as the ring endless circle movement.

2. The spleen-liver-rheum-uterus regulatory axis of the menstrual cycle in women of childbearing age

2.1 The spleen is the source of meridian water

In the theory of pivotal movement, the spleen earth left to produce blood, the stomach earth right to transform the gas, the blood generated by the spleen earth by the liver to run the transmission of the internal organs meridians, the whole body blood originates from the spleen earth, the meridian blood is part of the whole body blood also originates from the spleen earth. "Liver collects blood, lung collects qi, qi originates from lung, blood originates from spleen"⁴ "qi is unified in lung, blood is hidden in liver, and is always transformed in the middle qi"^{[3]62}. Qi and blood originate from the spleen and earth are also found in other literature, "Lingshu - Yingheihui" says: "The middle jiao is also included in the stomach, after the upper jiao, and this receives the qi, which secretes the dregs, vaporizes the fluids, and transforms its essence, which is injected upward into the lung veins, and is transformed into blood." The spleen and stomach in the middle jiao receive water and grain, produce essence, rise and clear into blood, the source of qi and blood for the whole body, the reason why the essence rises to the lung veins and turns into blood is because the spleen qi rises left, which is also consistent with the function of the spleen earth in the theory of "pivotal movement". This is also consistent with the "pivot movement" theory of the function of the spleen earth. "Jing Yue Quan Shu - Organ and Elephant Theory" says: "Blood is the essence of water and grain, which comes from the spleen." The "Ming Medical Miscellaneous Writings - Danxi treatment of disease is not out of gas, blood, phlegm and depression" said "people are based on the spleen and stomach, the grain, the essence, the clear into the glory, the turbid into the guard, the yin and yang to get this, is called the case of the Über-exhaustive, so the yang is issued in the limbs, the yin is line in the five organs. The spleen is the source of blood biochemistry, and the blood that is produced feeds the five internal organs and all the limbs and bones, and is also the source of menstrual water for women. The above documents also reflect the academic idea of "pivotal movement", which is a high summary of the functions of the internal organs and the operation of the qi mechanism of the human body, and the five organs and six internal organs are all based on qi but not on quality. It is a high summary of human physiological activities.

^{[3]66[3]5}The liver is the source of the liver wood: "The liver is born in the kidney water and grows in the spleen earth, the water and earth is mild, the liver wood is glorious, the wood is quiet and the wind is calm"^{[3]21}, the liver is the main drainage: "blood is unified in the liver, all the blood of the internal organs and meridians, the blood of the liver is also injected, its in the internal organs is called blood, and in the meridians is Ying"^{[3]4}, the liver wood not only regulates the flow of blood distribution throughout the body, the liver wood in the menstrual The liver wood not only regulates the flow of blood throughout the body, but also plays a key role in the regulation of menstruation. In his description of menstrual diseases, Huang Yuan-yu repeatedly mentions liver wood and describes the influence of liver wood physiopathology on menstrual diseases. Closure: "The menstrual vessels are closed due to the depression of liver wood. The blood, the fluid in the wood, wood nature likes to reach, wood gas, so the flow of the menstrual veins, not to the knot, wood gas depression, the development is not in progress, then the menstrual blood stagnation, closed knot is born"^{[3]163}; collapse and leakage: "the menstrual veins collapse and leakage, because of the liver wood trapped. The liver wood is the main source of life, business is smooth, wood gas, then the menstrual blood warm up, not to the lower discharge. The business is

depressed, the wood Qi does not reach, the menstrual blood is trapped and flowing, then the disease is collapsing and leaking"^{[3]164}; the first phase and the second phase: "The first phase is the sparing of wood Qi, the mechanism of collapse and leakage. In the later stage, the wood Qi is curbed and depressed, and the mechanism of closure is also. The original is always due to the spleen wet and liver trapped, wood depressed trapped, can not be developed, then the menstrual blood stagnation, can not be smooth, regardless of the first and later, the blood will be knotted astringent and unfavorable"^{[3]165} knotted stasis purple black: "the menstrual water knotted stasis purple black, the blood room cold and coagulation. Blood as a nature, warm is line, cold is stagnant, stagnant for a long time is close depression and corruption, is to become a block and not fresh. This to the earth wet water cold, wood gas depression of the reason." ^{[3]166}; menstrual abdominal pain: "menstrual abdominal pain, liver gas depression and punishment of the spleen. Because of its water and soil wet and cold, B wood suppression, blood coagulation and astringency is not smooth, full of blood, menstrual water is not conducive, wood congestion, drainage is not attempted, depression and conflict, gram injury to the spleen, is to abdominal pain"^{[3]166}. In the academic thought of "pivotal movement", the power of liver wood comes from the leftward rise of spleen earth, liver wood is born from the yang energy of kidney water, kidney water is yin, kidney water contains yang energy, which is the initial The liver wood is depressed and the menstrual water is not allowed to warm up, so the menstruation will be preceded by menorrhagia, and the menorrhagia is very depressed. In the academic thought of "pivot movement", although the left ascending power of liver wood is due to the leftward force of spleen earth, it has to be based on the warmth of kidney water, Huang Yuan Yu supports yang and suppresses yin, and emphasizes earth and yang, where yang refers to the yang of spleen and kidney. Menstrual water stagnation purple and black, menstrual abdominal pain is earth wet water cold plus wood depression, earth wet water cold, spleen earth can not operate, qi and blood can not be circulated, circular movement into non-movement, so menstrual water stagnation purple and black, wood depression cross grasp spleen earth, so menstrual abdominal pain.

The Spleen Earth produces Qi and Blood, and the Liver Wood regulates the timely onset of menstrual flow. The Spleen Earth is the source of power for the Liver Wood to regulate the flow of Qi and Blood, and is also the source of power for the physiological activities of the human body. If the liver wood is stagnant, the menstrual cycle will be late or closed; if the liver wood sinks into the kidney water, the menstrual cycle will be early or leaky; if the kidney water is cold, the menstrual water will be stagnant and purple. Blood is originated in the Spleen, Blood is hidden in the Liver, and Blood is controlled by the Liver. The left rotation of the spleen earth and the strip reach of the liver wood both require the warmth of the kidney water as a prerequisite. Although Huang Yuan Yu emphasizes the middle earth as the axis, he still focuses on the kidney water, which contains the qi of the liver wood, and the kidney water must be warm for the liver wood to rise and develop. "The method of regulating menstruation and nourishing the blood first to regain Yang is also the main. The original of the water, transformed in the earth, the spleen Yang left, warm and blood"^{[3]162}, "for example, the earth, Yang winter, water springs warm, spring wood development, thawing ice, warmth, so everything is born. So that winter without underground warmth, although there is Yang and commander, but also into the cold valley is not born." ^{[3]162}The kidney is the essence of the first heaven, the spleen and liver is the essence of the second heaven, with the spleen to the kidney, the same song, only the successive heaven coordinate with each other, in order to maintain the regular operation of the menstrual cycle of women of childbearing age.

2.2 Chong Ren is the pathway of meridians

Chong Ren belongs to the eight odd meridians, Chong Ren conceals and regulates the twelve meridians of qi and blood, and is the "sea of the twelve meridians" or "sea of blood", "Ling Shu Jing" says "Chong Ren and Chong Ren, both originate in the uterus and follow the abdomen, and are the sea of meridians. The "Ling Shu Jing" says that "the Punch and Ren Vessels both originate in the uterus and follow the abdomen, making them the sea of meridians". In Su Wen - Bone and Space, it is said: "When the Ren Vessel is a disease, men suffer from seven internal hernia and women suffer from obstruction in the abdomen. The Qi and Blood vessels are diseased, and the rebellious Qi is urgent." When the Ren Vessel is diseased, the meridians are blocked and the woman's uterus has no Qi and blood to inject into the body, and part of the Qi and blood accumulates and forms stagnant blood, i.e., obstruction, and part of it becomes white turbid and flows out of the body. It is an important meridian that connects the uterus to the body; it is the sea of blood that regulates the 12 meridians and is an important source and regulating part of the menstrual flow, and plays an important role in menstruation. Although Huang Yuan Yu did not describe more about the two channels, but from the formation of menstruation, Chong Ren is a pathway to gather Qi and blood from the internal organs. It is a key link and bridge for the flow of menstrual blood to the uterus.

2.3 *The uterus is the residence of menstrual water*

The uterus is located in the middle of the lower abdomen, under the belt vein, in front of the bladder, behind the rectum, and below the vagina. The classical scriptures with wings - seeking the right record pointed out that the uterus "live before the rectum, after the bladder", Zhu Zhenheng in the "Gezhi Yu Lun - fetus theory" in the first described: "Yin and Yang coitus, fetus pregnancy is condensed. The place where it is hidden is called the womb. A system in the lower, there are two divergences, one to the left, one to the right. The uterus also hides and leaks, is the residence of the menstrual water is also the place of conception of the fetus. In a menstrual cycle, the menstrual period, heavy yang must yin, from yang to yin transformation period, under the Yang Qi, the sea of blood from full and overflowing, the blood chamber is open, the uterus leak but not hide; late menstruation, after the menstrual blood drainage, the relative lack of Yin blood, the blood chamber is empty, the uterus hide but not diarrhea, in preparation for the intermenstrual period; intermenstrual period, heavy yin must yang, from yin to yang transformation period, the uterus closed, is the husband of pregnancy and childbirth; premenstruation, heavy yin to yang In this period, if the fetus is closed, the uterus continues to be closed, hidden but not leaked, the fetus continues to grow, if the pregnancy is not completed, the blood chamber is reopened, the uterus is leaked but not hidden. The uterus is in the whole menstrual cycle, hiding the diarrhea of menstrual blood, and if the twins are knotted, it is the place where the fetus is conceived and nurtured, and the uterus is the residence of menstrual water.

"The origin of menstrual water is transformed in the hexagonal earth Therefore, "Spleen - Liver - Orgasm - Uterus" is the main axis that regulates the menstrual cycle in women of childbearing age.

In the regular menstrual cycle of women, according to the theory of pivotal movement, the spleen earth is the source of menstrual water, the spleen earth is left to provide the liver wood with the power source of drainage and flow, the liver wood regulates the onset of menstrual water, the punching of the Ren converges the whole body qi and blood, is the main meridian leading to the uterus, the punching of the Ren is smooth, the menstrual water flows unimpeded, the uterus is the residence of menstrual water, is the hiding place of the diarrhea of menstrual water. The woman two seven days kui to, kidney qi Sheng, monthly events to time down, menstruation, at this time the central positive feedback mechanism on estrogen has not matured, even if the follicle development is mature can not ovulate, the month often irregular, seven seven days Ren pulse deficiency, day kui exhaustion, permanent cessation of menstruation for menopause. The Kidney-Tian Kuei-Chong Ren-Uterus axis is the mechanism of action throughout the life of a woman's menstrual cycle and menopause. This axis must be based on the normal reproductive axis of kidney, tiankui, zongren and uterus and the regular menstrual cycle of women before it can operate.

The Kidney-Tiankui-Chongren-Uterus axis not only emphasizes the role of the Kidney as the origin of the Innate and the Kidney as the master of reproduction, but also emphasizes the role of the Spleen as the origin of the Later Heaven and the source of Qi and Blood biochemistry, which plays an important role in the female reproductive axis. The Spleen-Liver-Chongren-Uterus regulatory axis not only emphasizes the role of Spleen Earth as the source of meridian water and the origin of the Later Heaven, but also focuses on the role of Kidney Yang. Only when Kidney Water is warm can Spleen Earth and Liver Wood run the regulatory axis in an orderly manner. Both the reproductive axis and the regulating axis affirm each other's role of the spleen and kidney. With the spleen to the kidney, the successive heavens harmonize with each other and nourish each other, and the spleen and kidney praise each other, then the menstruation of a woman's life and cycle can run normally.

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