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Treating Endometriosis-Associated Dysmenorrhea from the Perspective of Stasis: An Integrated Approach of Traditional Chinese and Western Medicine

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Abstract: ***Endometriosis (EMs) is a common gynecological disorder characterized primarily by dysmenorrhea, which significantly impacts patients' quality of life and daily activities. Current mainstream Western medical treatments primarily involve surgical lesion removal and hormonal interventions. While these approaches can alleviate symptoms in the short term, issues such as high recurrence rates and notable side effects persist. Traditional Chinese Medicine (TCM) posits that the core pathogenesis of endometriosis-related dysmenorrhea is "stasis" (blood stasis) obstructing the uterine palace, leading to impaired qi and blood circulation, thereby causing pain from obstruction ("obstruction leads to pain"). Based on this pathogenesis, TCM has established a comprehensive diagnostic and therapeutic system featuring syndrome differentiation and individualized treatment. Due to the limitations of any single therapeutic modality, integrated Chinese and Western medicine has become a research focus in this field. From an integrative perspective, this paper proposes a treatment model of "Western medicine for rapid symptom control, Chinese medicine for long-term root treatment," aiming to provide a theoretical basis and new practical insights for the clinical management of endometriosis-associated dysmenorrhea.***

Keywords: Endometriosis, Dysmenorrhea, Blood Stasis Theory, Integrated Traditional Chinese and Western Medicine.

1. Introduction

Endometriosis is a chronic inflammatory disease closely associated with estrogen. Simply put, it involves the growth of endometrial tissue, which normally lines the uterine cavity, outside the uterine cavity [1]. Pain is the most common manifestation, specifically including dysmenorrhea, dyspareunia, chronic pelvic pain, and regular non-cyclic pain [2]. The incidence of dysmenorrhea is as high as 80%. Unlike primary dysmenorrhea, endometriosis-related dysmenorrhea tends to be more severe, persistent, longer-lasting, and less responsive to conventional non-steroidal anti-inflammatory drugs (NSAIDs). The severity of pain does not always correlate directly with lesion size. Some patients with small lesions experience intense pain, while others with deep infiltrating lesions and more complex presentations may have less obvious pain. This discrepancy underscores the complexity of the pain mechanisms in endometriosis.

Western medical treatment for endometriosis-associated dysmenorrhea primarily follows a "three-step ladder" approach. Step one involves NSAIDs for pain relief. Step two utilizes hormonal agents to suppress ovarian function, including combined oral contraceptives (COCs), progestogens, and gonadotropin-releasing hormone agonists (GnRH-a). Step three involves surgical interventions, including conservative surgery (lesion excision) and radical surgery (hysterectomy with bilateral salpingo-oophorectomy). Current Western treatment regimens have limitations, such as post-treatment recurrence and side effects. Long-term NSAID use can lead to gastrointestinal injury and renal impairment. Hormonal agents often induce hypoestrogenic symptoms (hot flashes, mood swings, bone loss), and pain recurrence rates after discontinuation are high [3]. Surgical treatments also have drawbacks; conservative surgery can alleviate symptoms but carries a risk of recurrence, while radical surgery is only suitable for patients without fertility desires and leads to permanent sterility and premature menopause. Research indicates that endometriosis pain involves multiple mechanisms, including local inflammation at lesion sites, nerve infiltration, and central sensitization, making single-target drugs insufficient for comprehensive intervention.

While there is no direct record of "endometriosis" in ancient TCM texts, based on its clinical manifestations, it is categorized under "dysmenorrhea," "abdominal mass (Zhengjia)," "irregular menstruation," and "infertility." [4] Based on clinical observations, physicians throughout history have recognized "blood stasis" as the fundamental pathogenesis of this condition. As stated in the Ming Dynasty text Jingyue Quanshu: "Blood stasis lingering forms masses, which is unique to women. Its causes may arise during menstruation or postpartum... overall, when blood is active, residual blood not fully cleared, combined with any adverse factor, leads to stagnation accumulating daily and gradually forming masses." TCM treatment emphasizes "promoting blood circulation and resolving stasis" as the primary principle, complemented by methods like regulating qi, warming and promoting flow, tonifying the kidney, and softening hard masses and dissipating nodules. This has formed a comprehensive treatment system utilizing herbal decoctions, proprietary Chinese medicines, acupuncture, and external therapies. Compared to Western medicine, TCM treatment offers characteristics such as holistic regulation, individualized therapy, and fewer side effects, making it particularly suitable for the long-term management of chronic conditions.

2. The "Blood Stasis" Pathogenesis of Endometriosis-Associated Dysmenorrhea

2.1 The "Blood Stasis" Theory in Endometriosis-Associated Dysmenorrhea

Stasis is the root of this disease's onset. Factors such as liver qi stagnation, cold congelation, trauma, kidney deficiency, and damp-heat can all lead to blood stasis obstructing the vessels and collaterals [5]. The main etiological factors for blood stasis formation can be summarized into six aspects: First, internal injury from emotions causing liver qi stagnation and obstruction of qi movement, subsequently affecting blood flow. Second, contraction of external pathogens, especially cold invasion leading to cold congelation and blood stasis. Third, injury from surgical procedures directly damaging vessels, causing blood extravasation and resulting in stasis. Fourth, kidney deficiency with essence depletion; kidney yang insufficiency leads to inadequate warming and propulsion, causing sluggish blood flow, while kidney essence deficiency leads to insufficiency of yin-blood and sluggishness in the vessels, both potentially causing blood stasis. Fifth, damp-heat accumulating internally, which condenses and thickens blood, promoting stasis formation. The mechanisms by which blood stasis causes pain mainly include four categories: First, stasis obstructs the uterine palace, causing qi and blood obstruction and resulting in pain, which aligns with the pathological mechanisms of local ischemia and inflammatory mediator stimulation in modern medicine. Second, blood stasis retained internally leads to malnourishment of organs, channels, and collaterals, causing pain from malnourishment ("malnourishment leads to pain"), corresponding to pathologies like neural sensitization and tissue malnutrition in modern medicine. Third, prolonged stasis accumulating into masses (Zhengjia) that compress surrounding tissues, causing pain. Fourth, stasis and heat binding together, scorching the vessels and collaterals, thereby producing pain.

2.2 The Western Medical Implications of the "Blood Stasis" Theory

With the deepening of integrated Chinese and Western medicine research, the modern biological basis of "blood stasis" is gradually being revealed, providing a new perspective for understanding endometriosis-associated dysmenorrhea. Patients with blood stasis syndrome exhibit significant abnormalities in hemorheology, specifically manifested as increased whole blood viscosity and plasma viscosity, decreased red blood cell deformability, enhanced platelet aggregation, and elevated fibrinogen levels [6]. These changes lead to slowed microcirculatory blood flow and insufficient tissue perfusion, consistent with the TCM description of "impeded blood flow." The "blood stasis" state is closely associated with chronic low-grade inflammation. Endometriosis patients show elevated serum levels of various inflammatory cells and mediators, recruiting immune cells and creating a local and systemic inflammatory environment [7].

2.3 Integrated Interpretation of "Stasis" and Endometriosis Pathophysiology

"Blood stasis," as the core pathogenesis of endometriosis, finds rich confirmation and expansion at the microscopic level of modern medicine. The establishment and development of endometriosis lesions themselves constitute a dynamic vicious cycle of "stasis formation - generation - aggravation.". "Blood departing from the vessels" constitutes stasis: TCM believes "blood that has left the vessels becomes stagnant blood."[8] This aligns remarkably with the "retrograde menstruation" theory in the pathogenesis of endometriosis. Endometrial cells surviving in the retrograde menstrual blood flowing into the pelvic cavity are viewed as "blood that has left the vessels." Their ectopic adhesion, growth, and formation of pathological structures mark the beginning of "stasis formation." "Prolonged stasis transforming into masses (Zhengjia)" and lesion angiogenesis: After successful implantation, ectopic endometrial cells require new blood vessels (angiogenesis) to obtain nutrients. This process corresponds to the "mass formation" process in TCM's concept of "Zhengjia" development.

3. Western Medical Pathogenesis of Endometriosis-Associated Dysmenorrhea

3.1 Inflammatory Network Mechanisms

Research has found that levels of inflammatory mediators such as IL-2, IL-6, TNF-α, prostaglandins, interferons, and PGE2 are significantly elevated in endometriosis lesions, closely correlating with dysmenorrhea [9]. Prostaglandins, in particular, are key mediators directly responsible for pain sensation, primarily by activating nerve endings or stimulating other cells to release pain mediators [10].

3.2 Vascular and Neural Mechanisms

Vascular Endothelial Growth Factor (VEGF) is a core substance regulating angiogenesis in the human body. It increases vascular permeability and promotes cell proliferation and migration to facilitate new vessel formation. Nerve Growth Factor (NGF) is involved throughout the growth, development, differentiation, and maturation of nerve cells and can repair damaged nerve tissue. The levels of VEGF and NGF are positively correlated with the extent of new nerve and vessel growth on ectopic endometrial implants in endometriosis patients. VEGF and NGF promote angiogenesis and nerve development, directly exacerbating pain perception. The newly formed nerves and vessels can also stimulate or even damage existing nerve tissue, perpetuating and worsening pain [11] [1].

4. Synergistic Pathways of Integrated Chinese and Western Medicine for Endometriosis-Associated Dysmenorrhea

The theoretical basis for integrated treatment stems from the complementary nature of the two medical systems: Western medicine excels in microscopic disease identification and targeted intervention, while Chinese medicine excels in macroscopic syndrome differentiation and holistic regulation. Their combination can produce synergistic effects.

4.1 Complementary Treatment Principles: Rapid

Symptom Control vs. Long-Term Root Treatment

Western Medicine's "Symptom Control" Advantage: For acute, severe pain, Western medications act rapidly. NSAIDs can reduce pain and inflammation. Hormonal agents (e.g., GnRH-a, high-efficacy progestogens) suppress ovarian function, creating an artificial menopausal or pseudopregnant state, causing ectopic endometrial lesions to atrophy, thereby rapidly alleviating pain at its source [12]. Surgical intervention can directly remove or destroy visible lesions, relieving mechanical compression and irritation.

Chinese Medicine's "Root Treatment" Advantage: TCM focuses on holistic regulation and reversing the pathogenesis. The method of promoting blood circulation and resolving stasis can improve local pelvic microcirculation, promote absorption of stagnant blood and lesion dissipation; regulate hemorheology, reducing the "thick, sticky, coagulated, aggregated" state. The method of soothing the liver and regulating qi can regulate neuroendocrine function, alleviate psychological stress, and improve patients' mood and quality of life. The method of tonifying the kidney and cultivating essence aims to regulate the function of the "Kidney-Tian Gui-Chong and Ren Channels-Uterus" axis, improve receptivity of the eutopic endometrium, and regulate immune function. TCM treatment generally has fewer side effects, making it suitable for long-term maintenance therapy, consolidating efficacy, and preventing recurrence.

4.2 Specific Synergistic Treatment Strategies

4.2.1 Combined Application of Pharmacological Therapies

4.2.1.1 Chinese Herbal Decoctions/Proprietary Chinese Medicines Combined with Hormonal Agents

Synergistic Enhancement: Herbal formulas for promoting blood circulation, resolving stasis, softening hard masses, and dissipating nodules combined with progestogens or oral contraceptives may lead to faster and more effective relief of dysmenorrhea and reduction of pelvic masses/nodules, potentially allowing for lower doses of hormonal agents.

Mitigating Side Effects: To address side effects related to the hypoestrogenic state induced by GnRH-a therapy (hot flashes, night sweats, insomnia, bone loss), Chinese herbal interventions focusing on nourishing yin, reducing fire, tonifying the kidney, and replenishing essence can significantly alleviate these symptoms [13].Preventing Recurrence: Following the completion of a hormonal treatment course, continuing a consolidation period with Chinese herbs focusing on promoting blood circulation, resolving stasis, and tonifying the kidney can stabilize the internal environment and reduce the recurrence rate of pain and lesions after discontinuation.

4.2.1.2 Chinese Herbs Combined with Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

During acute pain episodes, combining NSAIDs with Chinese herbs that promote blood circulation, regulate qi, and alleviate pain (e.g., Yanhusuo [Corydalis Rhizoma], Baishao [White Peony Root], Gancao [Licorice Root]) may enhance analgesic effects and potentially allow for reduced NSAID dosage and frequency, thereby lowering the risk of gastrointestinal and renal damage.

4.2.2 Sequential Integration of Chinese Herbal Medicine and Surgical Treatment

Preoperative Application: For patients with large lesions or severe adhesions, administering Chinese herbs for promoting blood circulation, resolving stasis, softening hard masses, and dissipating nodules for a period (e.g., 1-3 months) before surgery can improve local blood circulation, reduce tissue edema and inflammatory adhesions, make lesion boundaries clearer, thereby facilitating surgical success, reducing intraoperative bleeding, and potentially causing atrophy of some micro-lesions, lowering surgical difficulty.

Postoperative Application: This is one of the most critical aspects of integrated treatment. In the early postoperative period (within 1-2 weeks), treatment focuses on boosting qi, promoting blood circulation, resolving stasis, and unblocking collaterals to promote wound healing and prevent postoperative adhesions and thrombosis. During the recovery period (1-6 months post-surgery), treatment shifts to consolidation therapy centered on promoting blood circulation, resolving stasis, tonifying the kidney, and regulating the menstrual cycle. This aims to clear residual or invisible micro-lesions, regulate immune and endocrine functions, repair the eutopic endometrium, fundamentally reduce recurrence risk, and improve fertility potential. Numerous clinical studies have confirmed that adjuvant TCM treatment post-surgery can significantly reduce endometriosis recurrence rates and improve pregnancy rates.

5. Formulation of Individualized Treatment Plans

Establish a comprehensive diagnostic system encompassing Western staging (rAFS staging), TCM syndrome type, symptom characteristics, laboratory markers, and genotypic/phenotypic features. Identify biomarkers predictive of response to integrated treatment: 1) Hormone receptor expression status; 2) Inflammatory cytokine profile; 3) Coagulation function indicators; 4) Trend of TCM symptom scores; 5) Gut microbiota characteristics. Establish a mechanism for monitoring treatment response and adjusting plans: Monthly assessment of symptom changes (VAS score, dysmenorrhea duration); every 3-month assessment of lesion changes (ultrasound measurement); every 6-month assessment of quality of life and safety indicators. Adjust the proportion and specific regimen of Chinese and Western medicines based on response. Provide patient education to explain the advantages and considerations of integrated therapy, and collaboratively develop a feasible plan considering patient preferences, economic conditions, and lifestyle factors.

6. Treatment Strategies

Syndrome differentiation and treatment based on the "blood stasis" theory is the core of individualized integrated therapy.

6.1 Qi Stagnation and Blood Stasis Syndrome

Dysmenorrhea characterized by distending pain or wandering pain, premenstrual breast distension, and depressed mood. Treatment principle: Soothe the liver, regulate qi, promote blood circulation, resolve stasis. Representative formula: Modified Ge Xia Zhu Yu Tang. Can be combined with progestogens or oral contraceptives, with emphasis on emotional management and psychological counseling.

6.2 Cold Congelation and Blood Stasis Syndrome

Dysmenorrhea alleviated by warmth, dark menses with clots, cold aversion, and cold limbs. Treatment principle: Warm the channels, dispel cold, promote blood circulation, resolve stasis. Representative formula: Modified Shaofu Zhuyu Tang. Can be combined with external therapies like moxibustion or warm uterine patches during treatment.

6.3 Kidney Deficiency and Blood Stasis Syndrome

Dysmenorrhea accompanied by soreness and weakness of the lower back and knees, dizziness, tinnitus, scanty or prolonged menstrual flow. Treatment principle: Tonify the kidney, promote blood circulation. Representative formula: Modified Gui Shen Wan combined with Tao Hong Si Wu Tang. This pattern is often seen in patients with prolonged disease course, post-surgery, or those with infertility, and is a focus for consolidation therapy and recurrence prevention. Can be used sequentially with GnRH-a or applied before/after assisted reproductive technology to improve success rates.

6.4 Stasis-Heat Interbinding Syndrome

Severe dysmenorrhea with a burning sensation, thick menstrual blood with clots, yellow thick leukorrhea, possibly accompanied by pelvic inflammatory disease. Treatment principle: Clear heat, resolve stasis. Representative formula: Modified Qing Re Tiao Xue Tang. Inflammatory reactions are typically more pronounced in this pattern. Short-term combination with NSAIDs or antibiotics (if infection is present) may be considered, alongside emphasis on lifestyle adjustments.

6.5 Phlegm-Stasis Interbinding Syndrome

Overweight body type, dysmenorrhea accompanied by profuse sticky leukorrhea, and soft pelvic masses. Treatment principle: Transform phlegm, dissipate nodules, promote blood circulation, resolve stasis. Representative formula: Modified Cang Fu Dao Tan Wan combined with Guizhi Fuling Wan.

6.6 Common Single Chinese Herbs

Danshen: A representative herb for promoting blood circulation and resolving stasis. It has a bitter taste, slightly cold nature, and enters the Heart and Liver channels. Its main functions are to invigorate blood, dispel stasis, unblock channels, and relieve pain. Modern pharmacological studies indicate that active components in Danshen can improve microcirculation, dilate blood vessels, and exert anti-inflammatory effects [14]. Cryptotanshinone exhibits anti-inflammatory properties and can inhibit the overexpression of VEGF [15]. Danshen may block nutrient supply to ectopic lesions, delay lesion proliferation, improve local pelvic blood stasis, promote qi and blood flow, and relieve uterine smooth muscle spasm, thereby alleviating dysmenorrhea. Clinically, it can be used alone in decoction or in combination with other herbs, making it a commonly used single herb for treating endometriosis-associated dysmenorrhea.

Taoren: It has bitter and sweet tastes, a neutral nature, and enters the Heart, Liver, and Large Intestine channels. Its functions are to invigorate blood, dispel stasis, and moisten the intestines to promote bowel movements. Its blood-breaking power is relatively strong, making it suitable for endometriosis patients with severe stasis obstruction. From a TCM perspective, Taoren can break up uterine blood stasis, unblock channel and collateral blockages, and relieve symptoms like stabbing lower abdominal pain during menstruation and dark purple menstrual blood with clots caused by blood stasis obstruction. It is important to note that Taoren has some toxicity, and its dosage must be strictly controlled in clinical application.

Honghua: It has a pungent taste, warm nature, and enters the Heart and Liver channels. Its functions are to invigorate blood, unblock channels, dissipate stasis, and relieve pain. Its medicinal properties are dispersing, pungent, and warmth-promoting; it enters the blood level to invigorate blood and resolve stasis. It is suitable for endometriosis - associated dysmenorrhea of the cold congelation and blood stasis type. It is commonly used orally in decoctions or externally as a hot compress. For external use, it can be boiled in water for hot compresses on the lower abdomen, improving local blood stasis through both the warming effect and herbal action.

Single herb treatment for endometriosis-associated dysmenorrhea centers on “promoting blood circulation and resolving stasis.” This aligns with the TCM theory of “treatment from the perspective of stasis” and is supported by modern pharmacological research. Within the integrated treatment model, single herbs can work synergistically with Western analgesic and endocrine-regulating methods, reduce side effects of Western drugs, enhance patient compliance, and provide more diverse and targeted options for managing endometriosis-associated dysmenorrhea.

7. Conclusion

Initiating from the TCM approach of “promoting blood circulation and resolving stasis,” and integrating it with Western medical treatment, this combined modality represents an innovative model for managing endometriosis-associated dysmenorrhea. Bridging the communication between traditional TCM theories and modern medical research to explore such multi-target, multi-level, personalized synergistic therapeutic pathways holds promise for finding more effective, safer, and more comprehensive solutions for this complex disease. Future efforts should continuously focus on high-quality clinical research, in-depth exploration of pathogenesis, and optimization of treatment protocols to promote ongoing

advancement in the therapeutic standards of this field.

References

[1] LIU J X, ZHOU G Q, HU W W, et al. Effect of endometriosis on subclinical cerebrovascular disease and cognitive function in postmenopausal women [J]. Chinese Journal of Multiple Organ Diseases in the Elderly, 2021, 20(09): 655-659.

[2] CANO H G, SALMUN N S, RUIZ D C G J, et al. Endometriosis: A Comprehensive Analysis of the Pathophysiology, Treatment, and Nutritional Aspects, and Its Repercussions on the Quality of Life of Patients [J]. Biomedicines, 2024, 12(7):1476.

[3] Vercellini P, Viganò P, Somigliana E, et al. Endometriosis: pathogenesis and treatment [J]. Nature reviews Endocrinology, 2014, 10(5):261-275.

[4] Sun, Z. P., Zhang, J., & Zhang, Y,etal. Research progress on the combined treatment of traditional Chinese and Western medicine for pain in patients with endometriosis [J]. Clinical Misdiagnosis & Mistherapy, 2025, 38(20): 132-140.

[5] Chen Yu, Wu Suzhen, Zhu Qiaoling, et al. Clinical Observation on Postoperative Intervention for Infertility Patients with Endometriosis Using Kidney-Tonifying and Blood-Activating Method Based on Traditional Chinese Medicine Constitution Identification [J]. China's Naturopathy, 2025, 33(24): 95-99.

[6] Qu, L., Tian, G. Q., Piao, Y. L., et al. Diagnosis and treatment of diabetes mellitus with integrated traditional Chinese and western medicine [J]. Scientia Sinica (Vitae), 2021, 51(8): 1148-1155.

[7] Meng, F. Y., Li, W. H., & Li, J,et al. Study on the Biological Connotation of Endometriosis with Intermingling Dampness and Blood Stasis Syndrome Based on Intestinal Flora and Inflammatory Microenvironment [J]. Chinese Journal of Integrated Traditional and Western Medicine, 2023, 43(8): 1001-1007.

[8] Chen, R., & Gu, N. A preliminary exploration of the internal relationship between the theory of "menstrual blood leaving its meridian becomes blood stasis" and intraplaque hemorrhage in atherosclerosis [J]. Chinese Journal of Integrative Medicine on Cardio-Cerebrovascular Disease, 2024, 22(2): 374-377.

[9] BINDA M M, DONNEZ J, DOLMANS M M. Targeting mast cells: a new way to treat endometriosis [J]. Expert Opin Ther Targets, 2017, 21(1): 67-75.

[10] SONG S Y, JUNG Y W, SHIN W, et al. Endometriosis-Related Chronic Pelvic Pain [J]. Biomedicines, 2023, 11(10).

[11] LI Y, LIU Y-D, CHEN S-L, et al. Down-regulation of long non-coding RNA MALAT1 inhibits granulosa cell proliferation in endometriosis by up-regulating P21 via activation of the ERK/MAPK pathway [J]. Molecular Human Reproduction, 2019, 25(1): 17-29.

[12] Wang, J., Gong, Y. P., Zhang, D. J., et al. Diagnosis and treatment of endometriosis [J]. Adolescent Health, 2024, 22(11): 20-21.

[13] Guo, L. L. Clinical study on Zishui Qinggan Lichong decoction in treating perimenopausal sleep disorders of kidney deficiency and liver depression type [D]. Beijing University of Chinese Medicine, 2023.

[14] Shan, X. X., Hong, B. Z., Liu, J., et al. Review of chemical composition, pharmacological effects, and clinical application of Salviae Miltiorrhizae Radix et Rhizoma and prediction of its Q-markers [J]. China Journal of Chinese Materia Medica, 2021, 46(21): 5496-5511.

[15] XU X, WU L, ZHOU X, et al. Cryptotanshinone inhibits VEGF-induced angiogenesis by targeting the VEGFR2 signaling pathway [J]. Microvasc Res, 2017, 111:25-31.