

## Review

### A Survey of TCM Treatment for Endometriosis

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Endometriosis (EM) refers to the disorders caused by the endometrial tissues growing out of the uterine cavity but in other parts of the body, which may include the progressive dysmenorrhea, dyspareunia, sterility, and abnormal menstruation. EM occurs mostly in the pelvic cavity, and it falls into the TCM category of 'dysmenorrhea', 'irregular menstruation', and 'sterility'.<sup>1</sup> Modern medicine holds that the ectopic endometrium still has the growing function, which, under the influence of estrin and progestogen, periodically exfoliates with hemorrhage. The blood fails to be normally discharged, which will accumulate in the focal region, and adhere with the surrounding tissues and organs, leading to the above-mentioned clinical problems. With complicated pathogenic mechanisms, broad pathological process, and the malignant biological behavior of infiltration, transfers and recurrent, this disease has drawn great attention by both the domestic and foreign medical circles. In recent years, TCM has presented various therapies in multiple ways for the treatment. The following is a brief account.

#### THE TCM INTERNAL TREATMENT

The criteria for clinical therapeutic effects of EM are mostly taken for *the Diagnostic and Therapeutic Criteria of the Integrated Chinese and Western Medicine for Endometriosis* revised by the Professional Board of Obstetrics and Gynecology of the Society of Integrated Chinese and Western Medicine on the Third Scientific Conference. 1) Cured: All the clinical symptoms and signs, including

the pelvic mass, disappeared, with pregnancy or fertility within two years for the infertility cases. 2) Markedly effective: The clinical symptoms basically disappeared, the pelvic mass reduced, but the local signs still existed; and the patient may have pregnancy. 3) Improved: The clinical symptoms were alleviated, the pelvic mass remained the same, with no aggravation of the symptoms within 3 months after withdrawal of the herbal administration. 4) Failed: No improvement of the clinical symptoms, and with a tendency of the local pathological changes.

The TCM internal treatment for endometriosis generally involves the syndrome-differentiation treatment, the periodic therapy, and the special-prescription treatment.

#### The syndrome-differentiation treatment

In view of the pathogenesis of interior obstruction of blood stasis, the principle of differential treatment for this disease is usually centralized on promoting blood circulation and removing blood stasis. Modern pharmacological researches have proved that the method of promoting blood circulation and removing blood stasis has the effects of improving hemodynamics and blood rheology, and antithrombosis. It can also help promoting the decomposition and resorption of blood stasis, softening the adhesion, decreasing mass, inhibiting inflammation and abnormal proliferation, alleviating pain, and regulating the immune function.<sup>2</sup>

Based on the fact that Xue Jie (血竭 Resina Draconis) has the effects of improving general and local microcirculation, promoting the resorption of local focus, decreasing PG concentration, and alleviating clinical symptoms, WANG De-mei,<sup>3</sup> taking Xue Jie (血竭 Resina Draconis) as the main drug in the prescription, applied the method of promoting blood circulation and removing blood stasis in the treatment for 156 cases of EM. The patients were divided randomly into two groups, each consisting of 78 cases. In this series, there were 39 cases of endometrioma, 98 cases of uterine chocolate cyst, and 19 cases of EM in other parts. In addition to the basic prescription, Xue Jie (血竭 Resina Draconis) was added for the *Xue Jie* group. The control group just used the basic prescription, containing Dan Shen (丹参 Radix Salviae Miltiorrhizae), Dang Gui (当归 Radix Angelicae Sinensis), Shi Jian Chuan (石见穿 Herba Salviae Chinensis), Shui Zhi (水蛭 Hirudo), San Leng (三棱 Rhizoma Sparganii), E Zhu (莪术 Rhizoma Curcumae), and Yi Mu Cao (益母草 Herba Leonuri). Modifications were done to the prescription according to the symptoms. Results showed that the total effective rate of the *Xue Jie* group was 92.31%, and that of the control group was 46.15%, showing a significant difference between the two groups ( $P < 0.01$ ). The recurrence rate of the *Xue Jie* group was 6.41%, and that of the control group was 23.08%.

YANG Feng<sup>4</sup> divided EM into the following 4 types of *qi*-stagnation and blood stasis, cold-accumulation and blood stasis, kidney-deficiency and blood stasis and interior obstruction of stagnant heat, and gave oral medication of *Hong Teng* prescription, containing Hong Teng (红藤 Caulis Sargentodoxae), Bai Jiang Cao (败酱草 Herba Patriniae), Mu Dan Pi (牡丹皮 Cortex Moutan), Dan Shen (丹参 Radix Salviae Miltiorrhizae), Tao Ren (桃仁 Semen Persicae), Zi Cao (紫草 Radix Lithospermi), Xiang Fu (香附 Rhizoma Cyperi), Sheng Pu Huang (生蒲黄

Pollen Typhae), Yan Hu Suo (延胡索 Rhizoma Corydalis), Sheng Mu Li (生牡蛎 Concha Ostreae), and E Zhu (莪术 Rhizoma Curcumae). The effective rate for the type of *qi*-stagnation and blood stasis (19 cases) was 89%, which for cold-accumulation and blood stasis (15 cases) was 80%, which for kidney-deficiency and blood stasis (20 cases) was 85%, and that for interior obstruction of stagnated heat (28 cases) was 96.4%.

LIAO Wei<sup>5</sup> conducted observation on the treatment of EM, with one group treated with the Chinese prescription for replenishing *qi*, removing blood stasis and softening the hard masses, and the other group treated with Mifepristone. No significant differences were found in the total effective rate between the two groups. However, after the treatment, the cancer antigen 125 (CA 125) in the Chinese herbal group was significantly decreased, and patients in this group with irregular menstruation were also cured, which was beneficial to pregnancy. This suggests that Chinese herbal treatment for EM has different mechanism from the western medical treatment, which does not inhibit ovulation and is more appropriate for women having the desire to get pregnancy.

### The periodic therapy

In clinic, EM usually attacks periodically, and gets worse progressively. Based on the law of wane and wax of *yin* and *yang* in the kidney and *qi* and blood in the Chong and Ren Channels shown in the menstrual cycle, satisfactory therapeutic effects can be got by the application of different prescriptions and treating principles at different periods of the menstrual cycle.

WANG Wei-chang<sup>6</sup> thinks that dysmenorrhea in EM cases is closely related with interior invasion by cold-damp and interior retention of blood stasis, and that blood stasis due to cold-accumulation is the key for occurrence of EM and is the main causative factor for dysmenorrhea. Therefore, it is not advisable to apply simply the method of promoting blood

circulation and removing blood stasis, yet the treating principle of warming the middle-*jiao* to remove pathogenic cold should be abided in the whole course of the treatment. Since the attack of pain is also closely related with the menstrual cycle, the periodic treatment can be adopted. Before the menstrual period, *Siwen Tang* (四温汤 Decoction Containing Four Warm Ingredients) can be used, containing Wu Zhu Yu (吴茱萸 Fructus Evodiae), Rou Gui (肉桂 Cortex Cinnamomi), Xiao Hui Xiang (小茴香 Fructus Foeniculi), Pao Jiang (炮姜 baked ginger), Yan Hu Suo (延胡索 Rhizoma Corydalis), Wu Ling Zhi (五灵脂 Faeces Troglodyteris), Mo Yao (没药 Myrrha), and Bai Shao (白芍 Radix Paeoniae Alba), which gives the effects of warming the middle-*jiao* to eliminate cold, regulating the flow of *qi* to check pain, promoting blood circulation and removing blood stasis, and alleviating the symptom of pain. During the menstrual period, *Fuwei Tang* (复位汤 Decoction for Location Restoration) can be used, containing Rou Gui (肉桂 Cortex Cinnamomi), Ma Huang (麻黄 Herba Ephedrae), Yan Hu Suo (延胡索 Rhizoma Corydalis), Juan Bai (卷柏 Herba Selaginellae), Ma Bian Cao (马鞭草 Herba Verbenae), Zhi Cao Wu (制草乌 Radix Aconiti Kusnezoffii Preparata), San Leng (三棱 Rhizoma Sparganii), E Zhu (莪术 Rhizoma Curcumae), Dang Gui (当归 Radix Angelicae Sinensis), Chi Shao (赤芍 Radix Paeoniae Rubra), and Zhi Shui Zhi (制水蛭 Hirudo Preparata), which, based on the effects of warming the menses and eliminating cold, can also give the effects of promoting blood circulation and removing blood stasis, and softening and resolving hard masses.

XING Yu-xia<sup>7</sup> treated EM according to the menstrual cycle. Before and during the menstrual period, the treating principle was based on promoting blood circulation and removing blood stasis, and warming *yang* and regulating the flow of *qi* to stop pain, with the use of such drugs like Dan Shen (丹参 Radix Salviae Miltiorrhizae), Hong Hua (红花 Flos Carthami), Chao Wu Ling Zhi (炒五灵脂 parched

Faeces Troglodyteris), San Leng (三棱 Rhizoma Sparganii), E Zhu (莪术 Rhizoma Curcumae), Zhi Mo Yao (制没药 Myrrha Preparata), Rou Gui (肉桂 Cortex Cinnamomi), Yan Hu Suo (延胡索 Rhizoma Corydalis), and Xue Jie (血竭 Resina Draconis). After the menstrual period, the treating principle was for replenishing *qi* and nourishing the kidney, and eliminating blood stasis and resolving hard mass, with the use of such drugs as Shan Yao (山药 Rhizoma Dioscoreae), Chuan Xu Duan (川续断 Radix Dipsaci), Dan Shen (丹参 Radix Salviae Miltiorrhizae), Zao Jiao Ci (皂角刺 Spina Gleditsiae), Shan Zhu Yu (山茱萸 Fructus Corni), Tu Si Zi (菟丝子 Semen Cuscutae), San Leng (三棱 Rhizoma Sparganii), E Zhu (莪术 Rhizoma Curcumae), Tu Bie Chong (土鳖虫 Eupolyphaga seu Steleophaga), Yan Hu Suo (延胡索 Rhizoma Corydalis), Shi Jian Chuan (石见穿 Herba Salviae Chinensis), and Xue Jie (血竭 Resina Draconis). 3 months constituted a treating course. After one course of the treatment, 8 cases were cured, 19 cases were markedly effective, 26 cases improved, and 5 cases failed. The total effective rate was 91.4%.

### The special-prescription treatment

Here, the special prescription refers to the prescription specially formulated for this disease based on the differential theory and clinical experience. LI Guang-rong<sup>8</sup> thinks that under the cyclic action of sexual hormones, the ectopic endometrium of the patient would have local hemorrhage and necrosis, similar to 'blood stasis' called in TCM. Therefore, in the treatment, the focus should be laid on promoting blood circulation and removing blood stasis. Dan Chi Yin (丹赤饮) was used, containing Chai Hu (柴胡 Radix Bupleuri), Dan Shen (丹参 Radix Salviae Miltiorrhizae), Chi Shao (赤芍 Radix Paeoniae Rubra), E Zhu (莪术 Rhizoma Curcumae), and Wu Ling Zhi (五灵脂 Faeces Troglodyteris). A clinical observation was conducted in 42 such cases. The results showed that 14 cases were markedly effective, 24 cases improved, and 4

cases failed. The total effective rate was 90.48%, the therapeutic effect for dysmenorrhea was 85.75%, and the therapeutic effect for infertility was 39.41%.

ZHANG Hui-qin<sup>9</sup> thinks that this disease is mostly due to deficiency in the origin and excess in the superficiality, and with a long duration of the illness. Long-term use of the drugs for eliminating blood stasis will cause consumption and damage of the vital-*qi*, and the insufficient *qi* will fail to promote the blood circulation, leading to a vicious cycle and worsening the condition. So, the modified *Buyang Huanwu Tang* (补阳还五汤 Decoction Invigorating Yang for Recuperation) was used for the treatment, which, meanwhile eliminating the pathogens, has the effect of reinforcing and replenishing the vital-*qi*, thus yielding a total effective rate of 93.9%.

#### THE TCM EXTERNAL TREATMENT

The TCM external treatment for EM can make the action of the herbs directly reach the affected area, and give no toxic side effects, which avoids the irritation of herbs to the gastric and intestinal tracts, and gives the effect of attacking the pathogens without damaging the vital-*qi*. It is an effective way for treatment of EM.<sup>10</sup>

#### Chinese herbal enema

KONG Gui-ru<sup>11</sup> thinks that the pathogenesis of EM is due to 'accumulation of blood stasis'. So, the herbs for promoting blood circulation and removing blood stasis, and eliminating heat and toxic materials, such as Hong Teng (红藤 *Caulis Sargentodoxae*), Bai Jiang Cao (败酱草 *Herba Patriniae*), Pu Gong Ying (蒲公英 *Herba Taraxaci*), Yu Xing Cao (鱼腥草 *Herba Houttuyniae*) and Zhi Xiang Fu (制香附 *Rhizoma Cyperi Preparata*), were used together with some western anti-inflammatory agents for rectoclysis in 50 cases of EM. The treatment started 3 days after the menstrual period, and was given once every night for 10 days as one therapeutic course. After 3 such therapeutic courses in succession, 15 cases were cured, 20 cases had marked effects, 9 cases improved,

and 6 cases failed, with a total effective rate of 88%.

SUN Hong<sup>12</sup> treated 49 cases of EM with the self-made prescription use for enema, which consisted of Mu Dan Pi (牡丹皮 *Cortex Moutan*) 9 g, Chao Chi Shao (炒赤芍 parched *Radix Paeoniae Rubra*) 9 g, E Zhu (莪术 *Rhizoma Curcumae*) 9 g, Fu Ling (茯苓 *Poria*) 12 g, Zao Jiao Ci (皂角刺 *Spina Gleditsiae*) 12 g, Shi Jian Chuan (石见穿 *Herba Salviae Chinensis*) 15g, Bai Jiang Cao (败酱草 *Herba Patriniae*) 15 g, Ru Xiang (乳香 *Resina Olibani*) 6 g, and Mo Yao (没药 *Myrrha*) 6 g, and were made into 100–150 ml decoction for use. The enema was given once daily, 14 days forming one therapeutic course. After the enema treatment for 2–3 courses, the total effective rate was 91.7%.

#### The medicinal plaster therapy

WANG Jing, et al. used the plaster therapy with She Xiang (麝香 *Moschus*) at Shenque (CV 8) to treat secondary dysmenorrhea due to severe endometriosis. 0.05 g of the man-made She Xiang (麝香 *Moschus*) was put into Shenque (CV 8) by a toothpick, 2 drops of 20% alcohol were dripped in, and then a piece of She Xiang (麝香 *Moschus*) plaster was stuck on the point. The plaster therapy should be done once every 48 hours, starting from one week before the menstrual period, 3 months constituting a treating course.

YAO Yu-rong, et al.<sup>14</sup> treated 113 cases of EM with *Keyizhongzi Dan* (克异种子丹). The ingredients were Shui Zhi (水蛭 *Hirudo*) 30 g, Chao Chuan Shan Jia (炒穿山甲 parched *Squama Manitis*) 30 g, Yan Hu Suo (延胡索 *Rhizoma Corydalis*) 30 g, Zhi Mo Yao (制没药 *Myrrha Preparata*) 30 g, Zhi Ru Xiang (制乳香 *Resina Olibani Preparata*) 30 g, Yin Yang Huo (淫羊藿 *Herba Epimedii*) 30 g, Tu Si Zi (菟丝子 *Semen Cuscutae*) 30 g, Chao Du Zhong (炒杜仲 parched *Cortex Eucommiae*) 30 g, Chuan Xiong (川芎 *Rhizoma Ligustici Chuanxiong*) 25 g, Da Huang (大黄 *Radix et Rhizoma Rhei*) 35 g, Mu Xiang (木香 *Radix Aucklandiae*) 25 g, Rou Gui (肉桂 *Cortex*

Cinnamomi) 20 g and Wu Gong (蜈蚣 Scolopendra) 4 pieces, which were mixed together and ground into powder for use. Each time, 10 g of the powder was used with warm water to make herbal paste, and was applied on the umbilicus, called the point Shenque (CV 8), and then covered and fixed with a piece of adhesive plaster. The therapy was given once every 3 days, 10 sessions constituting one therapeutic. The total effective rate was 94.3%.

### Acupuncture treatment

LI Yuan-feng<sup>15</sup> used auricular seed-embedding and herbal prescription for dysmenorrhea due to EM. The auricular seed-embedding with vaccaria seeds was applied starting from 5 days before the menstrual period on the auricular points of Subcortex, Endocrine, Sympathetic Nerve, Ear-Shenmen, Liver, Kidney, Internal Genitalia, and Tingzhong. The embedded seeds were pressed 3–5 times a day, lasting 30 min each time. The seed-embedding was done every 2 days alternately on both ears, altogether 5 times, with two menstrual cycles forming one therapeutic course. The results were quite good.

DING Zhe<sup>16</sup>, et al. think that EM is a main causative factor for secondary dysmenorrhea. In clinic, they applied vaccaria seed-embedding on the auricular points of Internal Genitalia, Endocrine, Liver, Kidney, Ear-Shenmen, and Sympathetic Nerve. The treatment began 3–5 days before the menstrual period, and lasted 3–5 menstrual cycles. The total effective rate was 97%.

RUAN Ji-yuan<sup>17</sup>, et al. think that the point-injection therapy with Chinese medicines can improve the ectopic endometrial adhesion and fibrosis. In clinic, they gave point-injection with salvia injectio at Zusanli (ST 36) and Xuehai (SP 10), or at Ciliao (BL 32) and Sanyinjiao (SP 6), with the two groups of points alternately used every other day, and 2 months constituting one therapeutic course. This therapy is good for symptom relief.

CHANG<sup>18</sup>, based on TCM syndrome-differentiation,

applied acupuncture treatment for EM. For the excessive heat syndrome, Baihui (GV 20), Ququan (LR 8), Shenmai (BL 62), Shenmen (HT 7), Xuehai (SP 10), Yinbai (SP 1), Zhongji (CV 3), and Zhaohai (KI 6) were selected; and for *qi*-insufficiency, Baihui (GV 20), Sanyinjiao (SP 6), Yangchi (TE 4), Yinbai (SP 1), and Zusanli (ST 36) were selected. Sometimes, auricular points of Ear-Shenmen, Uterus and Ovary were also used, with herbal prescription given in combination for a better therapeutic effects.

XIONG Yun-bim, et al.<sup>19</sup> adopted electro-acupuncture starting from 4 days before the menstrual period at the points of Guanyuan (CV 4), Zhongji (CV 3), and Sanyinjiao (SP 6). The treatment was given twice daily, each lasting 30 min. Each month, a 5-days treatment formed one therapeutic course. After 5 treatment courses, of the 70 cases treated, marked effects found in 37 cases, 30 cases were improved and 3 cases failed. The total effective rate was 95.71%.

WANG Hui-min<sup>20</sup> made a powder with Fu Zi (附子 Radix Aconiti Preparata), Lu Jiao Shuang (鹿角霜 Cornu Cervi Degelatinatum), Rou Gui (肉桂 Cortex Cinnamomi), Ru Xiang (乳香 Resina Olibani) and Wu Ling Zhi (五灵脂 Faeces Trogopteroi) in the ratio of 5 : 2 : 1 : 1 : 1, and then mixed the powder with 20% alcohol to make the medicinal cakes, 0.5cm in thickness and 3 cm in diameter. The medicinal cake was put indirectly on Shenque (CV 8) with a piece of gauze in between, and then with a lighted moxa cone put on the cake. Along with the rising of temperature, the pungent, warm and aromatic medicinal action of the herbs would enter the lower abdomen, uterus, and channels and collaterals to produce the therapeutic effect. LIU Ya-xin, et al.<sup>21</sup> obtained marked therapeutic effects for dysmenorrhea in EM cases treated by medicinal moxibustion.

### THE TCM COMPREHENSIVE TREATMENT

In recent years, both the internal and external

treatments are clinically adopted in combination, which can quickly alleviate the clinical symptoms, and raise the therapeutic effects.

Based on the TCM syndrome-differentiation and the concept of wholism, CHEN Dong, et al.<sup>22</sup> treated EM with oral medication of the self-made prescription *Xiaoyi Fang* (消异方 The Prescription for Relieving Endometriosis), which was combined with the ultrasonic penetration. The prescription was composed of Hong Hua (红花 Flos Carthami), Dan Shen (丹参 Radix Salviae Miltiorrhizae), San Leng (三棱 Rhizoma Sparganii), E Zhu (莪术 Rhizoma Curcumae), Zao Jiao Ci (皂角刺 Spina Gleditsiae), Ji Xue Teng (鸡血藤 Caulis Spatholobi), Dang Gui (当归 Radix Angelicae Sinensis), Bai Jiang Cao (败酱草 Herba Patriniae), and Tu Si Zi (菟丝子 Semen Cuscutae), which were mixed and made into granules. One dose of the granules was infused in boiled water, 2/3 of which for oral administration once daily, and 1/3 for one-hour ultrasonic penetration on the body-surface projection area of the uterus and bilateral appendix with the continuous wave in a intensity of 1.8–2.1 W/cm<sup>2</sup>, 3 months constituting one therapeutic course. The results showed cure in 19 cases, marked effect in 11 cases, improvement in 7 cases, and failure in 5 cases. The total effective rate was 88.10%.

YANG Yi<sup>23</sup> adopted the triple-therapy for treatment of EM in 40 cases. 1) The self-made herbal prescription *Chushi Poyu Zhixue Tang* (除湿破瘀止血汤 Decoction for removing damp and blood stasis and stopping hemorrhage) was used for oral administration. The ingredients were Xiang Fu (香附 Rhizoma Cyperi), Hong Hua (红花 Flos Carthami), Yi Mu Cao (益母草 Herba Leonuri), Che Qian Zi (车前子 Semen Plantaginis), Dan Shen (丹参 Radix Salviae Miltiorrhizae), Niu Xi (牛膝 Radix Achyranthis bidentatae), Cang Zhu (苍术 Rhizoma Atractylodis), Shan Yao (山药 Rhizoma Dioscoreae), E Zhu (莪术 Rhizoma Curcumae), and Huang Bai (黄

柏 Cortex Phellodendri). The decoction was taken one dose daily. 2) The dregs of the decoction were decocted again into 100 ml of medicinal fluid to be used for enema in the evening. Before the enema, the bowels should be relieved; and the medicinal fluid should be retained for more than 4 hours, which was conducted once daily, and should be stopped during the menstrual period. 3) Point-injection with 2 ml salvia injectio or angelica injection into 2–4 of the following points: Guilai (ST 29), Shuidao (ST 28), Siman (KI 14), Daju (ST 27), Sanyinjiao (SP 6), Hegu (LI 4), and Taichong (LR 3). The injection was given once every other day, and suspended during the menstrual period. 3 months of treatment formed one therapeutic course. The therapeutic effects were evaluated after 2 courses of the treatment. The effective rate was 95% for dysmenorrhea, 97.5% for profuse menstruation, and 85% for a prolonged menstrual period. Among the 17 infertility cases, 14 got pregnancy, and 12 gave child birth.

To sum up, TCM may show its superiority in treating EM. Based on syndrome-differentiation, it can give the differential treatment, periodic treatment and special-prescription treatment. In view of the pathogenesis of EM, the therapeutic method for promoting blood circulation and removing blood stasis should be taken as the first choice in the treatment,<sup>24</sup> with the other methods adopted for tonifying the kidney and soothing the liver, which can yield marked therapeutic effects. TCM treatment for EM may show the effects of alleviating dysmenorrhea, removing mass in the abdomen, regulating menstruation to help pregnancy, and improving the symptoms. In addition to the oral medication, the ways for TCM treatment also involve enema, acupuncture and external application. Many of the clinical researches have demonstrated that the herbal medicines can promote a quick atrophy and retrogression of the ectopic endometrium, and with less side effects and good long-term therapeutic effects.

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