

Conventional and herbal treatment strategies in the management of endometriosis

Yaso Shan explores the range of herbal alternatives often used in the treatment and management of endometriosis and outlines a holistic philosophy to diagnosis and treatment

Endometriosis is a complex and debilitating disease that can affect any woman. It is a chronic and progressive condition characterised by acute episodes. It is one of the commonest benign gynaecological conditions and is one in which tissue that would normally grow only in the endometrium is found elsewhere in the abdominal and pelvic cavities, accompanied by cyclical bleeding of these tissues and the formation of painful cysts. Subsequent rupture of cysts and the resultant inflammatory process often leads to the formation of multiple adhesions (Mills and Bone 2000). In more severe cases, endometrial tissue can migrate to other parts of the body and this presents a complicated clinical picture, particularly if there is a multisystem involvement.

Epidemiology

Parity of data relating to its prevalence in the population has been difficult to establish because, in many instances, it is only discovered during investigative or exploratory surgery such as laparoscopy when the patient presents with infertility or obscure abdominal pain (Llewellyn-Jones 2001). The National Endometriosis Society (2005) estimates that one and a half to two million women in Britain have endometriosis, while Campbell and Monga (2000) state that 10 to 15 per cent of women presenting with gynaecological symptoms have this disease. A probable estimate is between 1 and 7 per cent of women in their reproductive years having the disease, and that it is more common among women who are infertile or who delay childbearing until after the age of 30 years (Llewellyn-Jones 2001).

Wider implications of endometriosis

An examination of the wider implications of endometriosis reveals the true extent to which patients' lives are disrupted and limited. Coping

with possible infertility should be considered as part of the management programme and alternative strategies such as counselling or psychotherapy in addressing this aspect of the condition may be required. Not surprisingly, many women believe that a delayed diagnosis leads to increased personal suffering, more prolonged ill health and a disease state that is more difficult to treat. The only definitive way to diagnose endometriosis is through a laparoscopy with biopsy, an invasive procedure. Thus, new tests of endometriosis biomarkers must be both sensitive and specific, while reflecting pathophysiological change (Hummelshoj *et al* 2006).

Diagnosis and investigations

Though the herbalist will rely heavily on physical findings, presenting symptoms and information gathered following initial case-history taking, the orthodox practitioner can call upon various diagnostic tools and investigative procedures to assist in the differential diagnosis (Campbell and Monga 2000) (Table 1).

Table 1.
Orthodox diagnostic methods for detecting and confirming endometriosis

(Adapted from Campbell and Monga 2000)

Invasive

Laparoscopy	Pelvic endoscopy that enables exploration and occlusion through injection of a dye
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Non-invasive

Ca ₁₂₅ levels	Raised levels of this glycoprotein expressed by some epithelial cells of coelomic origin. Also noted in patients with ovarian epithelial carcinoma
Ultrasound	Of limited value in endometriosis but a particularly useful indicator when ovarian cysts are present
Magnetic Resonance Imaging (MRI)	Offers significant gains in endometriosis especially where there are ovarian cysts or invasion of surrounding organs (bowel, bladder, rectovaginal septum)

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Treatment plan objectives

Any treatment plan, whether orthodox or herbal, has to consider a plethora of factors from the physical to the psychological. Treatment is essentially management of the chronic state combined with an effective treatment for acute episodes. The treatment aims and objectives relate to both

Table 2. Orthodox treatment classification of endometriosis

(Adapted from Odukoya and Cooke 1998)

Medical	Surgical	Symptomatic
Combined oral and contraceptive pill	Diathermy	Prostaglandin inhibitors
Progestogens	Laser vaporisation	Assisted conception
Danazol	Excision	Psychotherapy
Gestrione	Ovarian cystostomy	
GnRH-a	Presacral neurectomy	
GnRH-a with 'add-back' therapy	Total abdominal hysterectomy and ovarian removal (bilateral salpingo-oophorectomy)	

Table 3. Summary of herbs commonly indicated in the symptomatic approach to endometriosis

(Adapted from Rogers 1995 and Mills and Bone 2000)

Symptom	Phytochemical properties/ Pharmacological actions	Herbs of choice
Chronic abdominal or pelvic pain	■ pelvic tonic and astringent ■ anti-inflammatory ■ analgesic ■ antispasmodic	<i>Senecio aureus</i> (life root) <i>Viburnum opulus</i> (cramp bark) <i>Chamomilla recutita</i> (chamomile) <i>Piscidia erythrina</i> (Jamaica dogwood)
Ovulation pain (pain mid-cycle)	■ hormone balancer ■ ovarian tonic	<i>Anemone pulsatilla</i> (pulsatilla) <i>Chamaelirium luteum</i> (false unicorn root) <i>Vitex agnus castus</i> (chaste berry)
Dysmenorrhoea	■ antispasmodic ■ analgesic ■ anti-inflammatory	<i>Viburnum prunifolium</i> (cramp bark) <i>Cimicifuga racemosa</i> (black cohosh) <i>Anemone pulsatilla</i> (pulsatilla)
Menorrhagia	■ anti-haemorrhagic ■ astringent	<i>Achillea millefolium</i> (yarrow) <i>Trillium erectum</i> (beth root) <i>Mitchella repens</i> (squaw vine)
Menstrual irregularities	■ hormone balancer (oestrogenic or progesteronal)	<i>Vitex agnus castus</i> (chaste berry) <i>Dioscorea villosa</i> (wild yam) <i>Smilax ornata</i> (sarsaparilla)
Deep dyspareunia	■ anti-inflammatory ■ analgesic	<i>Anemone pulsatilla</i> (pulsatilla)
Dysuria	■ astringent ■ demulcent ■ anti-inflammatory	<i>Capsella bursa-pastoris</i> (shepherd's purse) <i>Ulmus rubra</i> (slippery elm) <i>Zea mays</i> (cornsilk)
Pain on defaecation	■ anti-inflammatory ■ astringent	<i>Achillea millefolium</i> (yarrow) <i>Hamamelis virginiana</i> (witch hazel)
Aggravated PMS	■ hormone balancer (oestrogenic or progesteronal)	<i>Vitex agnus castus</i> (chaste berry) <i>Carduus marianus</i> (milk thistle) <i>Angelica sinensis</i> (Chinese angelica)
Pelvic congestion	■ decongestants ■ circulatory stimulants ■ uterine tonics	<i>Zingiber officinale</i> (ginger) <i>Chamaelirium luteum</i> (false unicorn root) <i>Achillea millefolium</i> (yarrow)

conventional and herbal approaches, though methods adopted are vastly opposing in philosophy and practice. Surgical intervention, in particular, could be minimally invasive by laparoscopic methods or entirely radical (Table 2). Both forms of treatment have shared goals that involve the relief of symptoms through removing or inducing resolution of implants and limiting progression of the disease. Moreover, both strategies include approaches that delay recurrence and restore fertility where necessary. Table 2 classifies the conventional treatment options in the management of endometriosis (Odukoya and Cooke 1998).

Recent studies on the effect of an interferon α -2b, an immune cytokine, offer fresh hope to those who prefer drug-based therapies but find current medication incompatible. Laparoscopic intraperitoneal injection of human interferon α -2b in women with variable stages of endometriosis resulted in a reduction in the staging of the disease (Mohamed Ali *et al* 2000). Further, an *in vitro* study demonstrated that interferon α -2b inhibits the growth and DNA synthesis of endometrioma cell lines (Badawy *et al* 2001).

More recent research in mice has shown encouraging results for a non-toxic, antiangiogenic protein drug called endostatin. By blocking the development of new blood vessels (an essential component of endometriosis development), endostatin suppressed the growth of endometriotic lesions by 47 per cent without affecting the reproductive cycle or the formation of the *corpus luteum*. This has important implications on fertility and offers a promising treatment option for patients (Becker *et al* 2005).

Herbal treatment objectives

An early definitive diagnosis through investigative laparoscopy is essential and suspect obstructions in the genital tract or complications of abdominal or pelvic congestion that dictate the need for orthodox intervention must be dealt with via the same operational channels. Where lifestyle modifications are necessary (such as giving up smoking) and where a strong association has been established between the risk factor, onset or exacerbation of endometriosis, the patient must be offered support and encouragement as part of the treatment plan. The possibility of infertility and the implications it presents to the patient should also be addressed.

A herbalist's treatment plan should consider the wider implications for the patient's life such as work, friends and family. Patients can find the misery of intractable pain or prolonged infertile-

ity intolerable (Hummelshoj *et al* 2006). Many women are embittered by the treatment they receive from the orthodox medical profession, unaware of the difficulties inherent in making an accurate diagnosis and treating the disease. Therefore, patient education is a vital part of management especially the chronic condition.

Herbal treatment strategy

Redressing hormonal imbalances can have a remarkable beneficial effect in alleviating symptoms. However, it has to be appreciated that the phytochemical efficacy of exogenous hormones does not compare to the complex pharmacological interplay of endogenous hormones that influence normal reproductive physiology. Much of the basis for treatment strategies rests on anecdotal evidence, and attempts at understanding the phytopharmacological mechanisms of herb actions remain speculative. The initial symptomatic approach may be superseded by plants that exert an influence over endocrine action, particularly those that regulate reproductive function. A synopsis of the types of herb actions required at the symptomatic level is indicated in Table 3 (Rogers 1995, Mills and Bone 2000).

Complications

Ectopic endometrial tissue embeds most frequently on the serosal aspect of the intestine, specifically the sigmoid colon and rectum (Haslett *et al* 1999). Cyclical pain, bleeding, diarrhoea and constipation can be treated with herbal preparations on a symptomatic level. Complications through adhesions that cause non-specific obstruction may be more difficult to treat, although *Centella asiatica* (Gotu Kola) and *Salvia miltiorrhiza* (dan shen) are recommended for significantly reducing the rate of adhesion formation (Mills and Bone 2000).

Phytopharmacological efficacy

An important focus is to examine how effectively the body is eliminating and to assess regulatory functions. This is partly a naturopathic philosophy. Another crucial aspect is circulation; part of the analgesic approach is to administer herbs that influence circulation in the pelvic region. In this respect, herbs such as *Crataegus* (hawthorn), *Zingiber* (ginger) or *Capsicum* (cayenne) can all be helpful. There is a suggestion that thyroid antibodies are implicated in cases of endometriosis (Poppe *et al* 2002). Many of the herbs

that influence immune function are also anti-inflammatory. *Echinacea* will modulate immune function whereas *Glycyrrhiza* (licorice) will directly influence the adrenal glands while stimulating the immune responses that result from the augmentation of inflammatory processes. Equally, treatment outcomes should be measured in the context of other medical or health problems with a view to modifying treatment strategies that prioritises more pressing concerns.

Hormonal influences of some herbs, particularly those that contain steroidal saponins such as *Dioscorea villosa*, *Chamaelirium luteum* and *Vitex agnus castus*, have all been indicated in endometriosis, though in minimal dosages. *Vitex* has been shown to influence pituitary function thereby exerting an indirect effect through gonadotrophin (GnRH) action (Murray 1995). *Trillium erectum* is strongly indicated in cases of excessive bleeding or flooding. Simple measures of other therapies such as aromatherapy may give local relief of pain by applying poultices of herbs such as *Chamomilla*, *Lavandula*, *Viburnum opulus*, *Anemone pulsatilla* or *Valerian* to the lower abdomen. Homeopathic

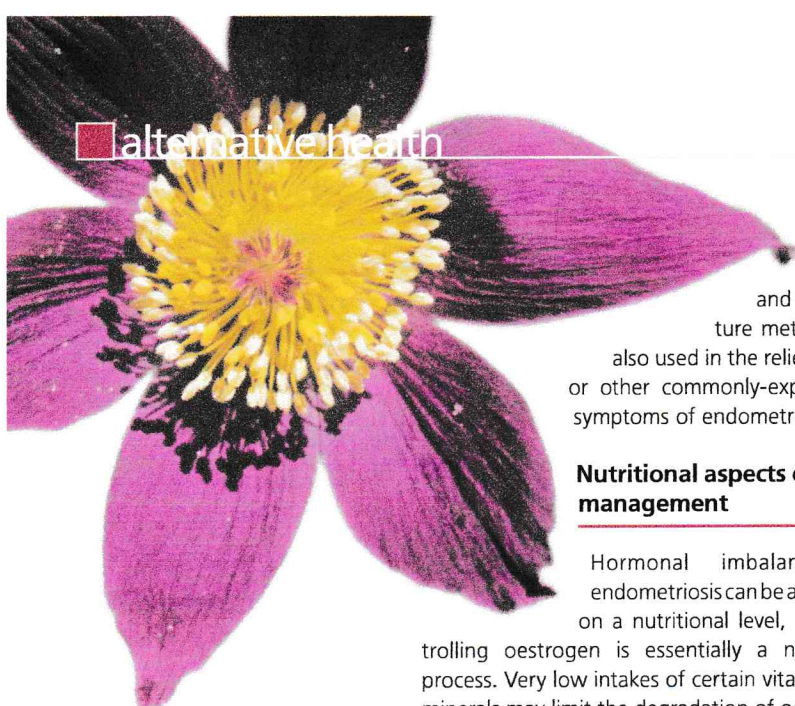


Anemone pulsatilla (pulsatilla)

Table 4. Selected nutrients of value and relevance in addressing manifestations of endometriosis

(adapted from The SHE Trust 2005)

Nutrient	Comment
Vitamin C	reduces inflammation
B complex B ₁ B ₆ B ₁₂	■ anti-inflammatory effects ■ analgesic action ■ lowers endogenous oestrogen levels
Mg ²⁺ deficiency	■ causes muscle cramping in abdomen ■ causes joint pains (Mg²⁺ acts on nerves that influence the relaxation of muscles and reduce the cramping pains during menstruation)
DL Phenylalanine; DLPA (amino acid)	■ marked reduction in pain through augmentation of endorphin release
Dioxin (pesticide)	■ accumulation in fat cells is implicated in immune system damage and endometriosis through interference with choline metabolism (American Endometriosis Assoc) (Choline = a B vitamin that is essential for liver function and oestrogen degradation)
Phytoestrogens	■ isoflavones (weak exogenous oestrogens) in soya may counter the effect of endogenous oestrogens ■ broccoli, french beans, pomegranates & fish oils encourages production of endogenous oestrogens



and acupuncture methods are also used in the relief of pain or other commonly-experienced symptoms of endometriosis.

Nutritional aspects of management

Hormonal imbalances in endometriosis can be addressed on a nutritional level, and controlling oestrogen is essentially a nutritional process. Very low intakes of certain vitamins and minerals may limit the degradation of oestrogen, and preventing its accumulation is essentially the treatment strategy, particularly as its build up through poor elimination is responsible for cell proliferation. Furthermore, the control of oestrogen concentration is disturbed significantly by excess sugar levels, insufficient protein and is almost incapacitated by a lack of the B vitamins, choline and inositol. Vitamin B6 encourages production of progesterone to help rebalance the two main sex hormones (SHE Trust 2005).

Infertility and pain are two major symptoms that can be effectively addressed through diet. Certain nutrients possess analgesic and anti-inflammatory properties which correspond to orthodox medicines without the side effects. Essential fatty acids such as fish oils, evening primrose oil (EPO), starflower oil, borage oil and linseed oils metabolise within the body to form anti-inflammatory prostaglandins (PGE₁) which help reduce pain and inflammation. Moreover, fish oil supplementation has been shown to significantly reduce the size of endometrial deposits. A balance between animal, vegetable and fish oil intake is necessary to avoid the production of certain prostaglandins that trigger inflammation. Other supplementary nutrients that are suggested have been summarised in Table 4 (The SHE Trust 2005).

Conclusion

There is no cure for endometriosis and, in the absence of clear signs for an obvious or immediate diagnosis at the early stages, there is a heavy reliance on orthodox methods of investigation to confirm its presence. Establishing closer alliances between orthodox practitioners and herbalists is essential in the management of all chronic conditions, not only to formulate treatment strategies and objectives, but, more critically, to ensure the increased frequency of successful outcomes. The

clinical presentation of endometriosis may be quite diverse in respect of physical findings in addition to the severity of symptoms. Therefore, the symptomatic approach to treatment and management continues to be the preferred course of action.

Study into this condition is minimal, hampered by limited proof on aetiology and pathogenesis. Further, the difficulties in diagnosing endometriosis may delay treatment that can inevitably result in an exacerbation of problems with fertility. Prompt action is also required to prevent any delays in diagnosis with an inevitable consequence of infertility. Herbal treatment strategies have demonstrated their effectiveness owing to their proven phytopharmacological efficacy *in vitro*, particularly in addressing pain, inflammation and hormonal imbalances. The emotional distress connected with menstrual disturbances can often be overlooked, and, along with the physical involvement, a whole burden of anxiety can accompany the clinical presentation. Radical aspects of conventional management cause considerable distress, particularly when total removal of the reproductive organs impacts dramatically and irreversibly on fertility. This is an important consideration and psychological wellbeing must have equal emphasis in patient care. Effective herbal treatment, using a range of nervines to address the psychological and emotional aspects of endometriosis, could be an essential component of the management approach.

The increasing number of self-help groups, societies and organisations provide much needed support and guidance as well as patient education. Nutritional advice has proved invaluable in alleviating symptoms, as well as redressing dietary deficiencies. There is a pressing need for significant scientific research into endometriosis, but until this is considered a priority, treatment and management will continue to be limited to the symptomatic approach. This may be beneficial in the short-term but offers little comfort and consolation to sufferers in the long-term. A holistic approach is therefore essential in addressing the wider implications of endometriosis, in coming to terms with infertility and in dealing with the physical and mental wellbeing of patients ■

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References

- Badawy SZ, Etman A, Cuenca V, Montante A, Kaufman L** (2001) Effect of interferon alpha-2b on endometrioma cells in vitro. *Obstetrics and Gynaecology*. 98, 3, 417-420.
- Becker CM, Sampson DA, Rupnick MA et al** (2005) Endostatin inhibits the growth of endometriotic lesions but does not affect fertility. *Fertility and Sterility* 84, 1144-1155.
- Campbell S, Monga A** (2000) *Gynaecology by Ten Teachers*. 17th Ed London, Hodder Arnold.
- Haslett C, Chilvers ER, Hunter JAA, Boon NA** (Eds) (1999) *Davidson's Principles and Practice of Medicine*. 13th Ed. Edinburgh, Churchill Livingstone.
- Hummelshoj L, Prentice A, Groothuis P** (2006) Update on endometriosis. *Women's Health* January 2, 1, 53-56.
- Llewellyn-Jones D** (2001) *Fundamentals of Obstetrics and Gynaecology*. St Louis Missouri, Mosby.
- Mills S, Bone K** (2000) *Principles and Practice of Phytotherapy*. Edinburgh, Churchill Livingstone.
- Mohamed Ali AF, Fateen B, Ezzet A, Badawy H, Ramadan A, El-tobe A** (2000) Laparoscopic intraperitoneal injection of human interferon-2b in the treatment of pelvic endometriosis: a new modality. *Obstetrics and Gynaecology*. 95, 1, S47-S48.
- Murray M** (1995) *The Healing Power of Herbs*. 2nd Ed. Roseville California, Prima Publishing.
- National Endometriosis Society** (2005) *Basic Principles for a Healthy Diet – Fact Sheet*. NES, London.
- Odukoya OA, Cooke ID** (1998) Endometriosis: a review. In Studd J (Ed) *Progress in Obstetrics and Gynaecology*. Vol 12. Churchill Livingstone, Edinburgh.
- Poppe K, Glinoe D, Van Steirteghem A et al** (2002) Thyroid dysfunction and autoimmunity in infertile women. *Thyroid*. 12, 11, 997-1001.
- Rogers C** (1997) *The Women's Guide to Herbal Medicine*. Hamish Hamilton, London.
- Simply Holistic Endometriosis (SHE) Trust** (2005) *Nutritional Support for Endometriosis*. SHE Trust. Lincoln.