Figure 7-5 Reishi (*Ganoderma lucidum*). (Photo by Martin Wall.)

been extensively documented, little is known regarding its alcohol extract. In the present study, the antitumor effect of an alcohol extract was investigated using MCF-7 breast cancer cells. The extract inhibited cell proliferation in a dose- and time-dependent manner, which might be mediated through upregulation of p21/Waf1 and downregulation of cyclin D1. Furthermore, this compound can directly induce apoptosis in MCF-7 cells, which might be mediated through upregulation of a pro-apoptotic Bax protein and not by the immune system. There are likely multiple mechanisms underlying the antitumor effects of *G. lucidum*.[193] *G. lucidum* also demonstrated antioxidant activity, free-radical scavenging, and chelating abilities.[194] No specific studies were identified on the use of *G. lucidum* for the treatment of HPV infection or cervical dysplasia; however, given the mechanisms of action of this herb, this may be a promising area of research, and certainly merits consideration of this herb in an immune-enhancing protocol.

Thuja

Thuja is used by many herbalists and naturopathic physicians for the treatment of genital and anal warts, and is commonly recommended in the naturopathic treatment of cervical dysplasia for its antiviral activity.[195] The main constituent is an essential oil consisting of α- and β-thujone, the content of which varies proportionally with the amount of ethanol used in producing the plant extract. If consumed internally, thujone can be neurotoxic, convulsant, and hallucinogenic. Long-term or excessive use of thujone-rich products can cause restlessness, vomiting, vertigo, tremors, renal damage, and convulsions.[196] Internal use of thuja decoctions and even very small doses of thuja oil (i.e., 20 drops per day for 5 days) as an abortifacient has been associated with neurotoxicity, convulsions, and death.[195] Additionally, thuja is associated with a substantial risk of inducing fetal malformation, and is absolutely contraindicated for use in pregnancy.[195] No research on the short- or long-term topical use of this herb was identified. Ingestion of thuja cannot be recommended because of potential for toxicity.

CHRONIC PELVIC PAIN

Aviva Romm

Chronic pelvic pain (CPP) is defined as pelvic pain lasting more than 6 months. Some authors add the additional criteria that the pain be noncyclic.[197] It is one of the most common presenting complaints in gynecologic practice, affecting as many as one in seven American women. CPP comprises up to 10% of outpatient gynecologic visits, accounts for 20% of laparoscopies, and results in 12% (75,000/year) of all hysterectomies performed annually in the United States.[198] Estimated annual direct medical costs for outpatient visits for CPP in the United States among women 18 to 50 years old is estimated to be $881.5 million. It is often an extremely frustrating condition for both patient and care provider because in many cases an etiology cannot be identified and there is no apparent pathology. Treatment of presumed underlying conditions is frequently ineffective, and the ''pain itself becomes the illness.''[198] Because the cause often cannot be identified, CPP is frequently attributed to psychogenic causes. Although these may play a role in CPP for some women with lack of an identifiable cause, this does not necessarily equate with a psychosomatic origin for this complaint.[199]

Common causes of chronic pelvic pain include endometriosis, pelvic inflammatory disease (PID), adhesions, ovarian remnant syndrome, pelvic congestion syndrome, and cyclic uterine pain, which may be caused by primary or secondary dysmenorrhea, uterine myomata, and adenomyosis. History of psychosexual trauma is common in women diagnosed with CPP.[200] Chronic pelvic pain is frequently associated with systemic inflammation, including autoimmune diseases. Peritoneal chronic inflammation is sometimes also associated. A study of chronic pain reveals that the immune system is intimately involved in the production, conduction, and exacerbation of pain and of its clinical features, such as hyperalgesia and allodynia.[201]

Not all pelvic pain is of gynecologic origin; other conditions must be ruled out. Genitourinary pain (e.g., due

to interstitial cystitis, urethral syndrome, or overactive bladder), gastrointestinal pain (e.g., irritable bowel syndrome, bowel obstruction, or bowel neoplasm), and neuromuscular pain are also common causes of CPP. CPP may be intermittent or continual. Pain is affected by physical and mental fatigue, as well as stress. It may lead to depression and anxiety, dyspareunia (painful sex/intercourse), and difficulties with sleep, decreased ability to work and enjoy normal activities, and may be a contributing factor in job loss, relationship dysfunction and divorce.[202–204]

SYMPTOMS

Symptoms associated with CPP include:

- Anxiety and depression.
- Constipation or diarrhea
- Dysmenorrhea
- Fatigue
- Leg pain radiating from the groin.
- Loss of interest in social activities
- Low back pain and a feeling of heaviness in the lower abdomen.
- Menstrual irregularity
- Persistent pain despite multiple treatments
- Reduced libido
- Sleep disruption
- Spasms of the vaginal and/or pelvic floor muscles
- Substance use/abuse
- Dyspareunia (painful and difficult intercourse/vaginal penetration)
- Family/relationship problems

DIAGNOSIS

Diagnosis of CPP is based on identifying the underlying cause(s). It also may be a diagnosis of exclusion, with no identifiable etiology. Careful attention should be paid to the history and physical examination, particularly a thorough pelvic examination to evaluate for tenderness, pelvic mass, adhesions, or prolapse. Testing may include ultrasound, laparoscopic examination, pregnancy test, CBC, vaginal and cervical cultures, Pap smear, evaluation for GI disorders, and urologic examination.

DIFFERENTIAL DIAGNOSIS

Differential diagnosis in CPP is really a matter of identifying the possible causes of pain (Table 7-6) and treating the etiology while addressing the pain and concomitant

TABLE **7-6**

Common Causes of Chronic Pelvic Pain

CLASSIFICATION	CONDITIONS
Gynecologic	Abortion
	Adhesions
	Adnexal torsion
	Chronic salpingitis
	Dysmenorrhea
	Ectopic pregnancy
	Endometriosis
	Mittelschmerz
	Pelvic congestion
	Pelvic infection
	Ruptured ovarian cyst
	Salpingitis
	Uterine fibroids
	Uterine prolapse/pelvic relaxation
Gastrointestinal	Appendicitis
	Chronic appendicitis
	Constipation
	Diverticulosis
	Enterocolitis
	Gastroenteritis/Spastic colon
	Inflammatory bowel disease
	Irritable bowel syndrome
	Neoplasia
	Ulcerative colitis
Urologic	Chronic cystitis
	Detrusor hyperactivity
	Interstitial cystitis
	Ureteral calculus

Continued

TABLE 7-6

Common Causes of Chronic Pelvic Pain—cont'd

CLASSIFICATION	CONDITIONS
Musculoskeletal/Neurologic	Arthritis
	Coccydynia
	Conus medullaris lesions
	Degenerative joint disease
	Fibromyalgia
	Fractures
	Low back problems
	Multiple sclerosis
	Nerve entrapment syndromes
	Neuromuscular disorders
	Pelvic floor spasm
	Poor Posture
	Vertebral disk disorder
Psychogenic	Abuse
	Clinical depression
	Hypochondriasis
	Pain medication seeking
	Physical or sexual abuse
	Premenstrual dysphoric disorder
	Psychiatric disorders
	Psychosocial stress
	Sleep disturbances
	Substance abuse
Other	Hyperparathyroidism
	Calcium/magnesium deficiencies
	Trauma

Data from Forrest D: Common Gynecologic Pelvic Disorders. In Youngkin E, Davis M, eds. Women's Health: A Primary Care Clinical Guide, Stamford, Appleton and Lange,1998, pp. 313-362; Ryder R: Chronic pelvic pain, Am Fam Physician 54(7):2225-2232, 1995; Ostrzens A: Gynecology: Integrating Conventional, Complementary, and Natural Alternative Therapy, Philadelphia, Lippincott Williams & Wilkins, 2002.

symptoms. In patients under 30, the most common causes of pelvic pain include endometriosis and pelvic inflammatory disease; in older women, causes most likely include uterine myoma, adenomyosis, or pelvic relaxation. It is critical to rule out any serious or life-threatening causes, as well as to assess for depression, anxiety, and serious mental health disorders.

CONVENTIONAL TREATMENT APPROACHES

The choice of medical treatment for CPP depends on the etiology of the pain, thus necessitating careful diagnosis. Treatment of underlying conditions is the primary treatment strategy. However, in one-third of cases, no etiology is identified. Sympathetic and supportive care is critical, with reassurance and validation of the woman's symptoms essential, especially in the absence of an identifiable cause.[199] The pain should be treated as a real problem. Multidisciplinary team management of CPP may be the most productive strategy, including the expertise of a gynecologist, a psychologist with expertise in sexual and relationship counseling, and also possibly an acupuncturist for pain management, in addition to the appropriate specialists for the underlying cause.[199,205] Treatment with medication includes the use of NSAIDs, antidepressants for depression and sleep disorders, and hormonal therapies (i.e., oral contraceptives for management of cyclic pain or GnRH analogs for pain associated with endometriosis or uterine fibroids). Trigger point injections of local anesthetics has proved helpful for prolonged pain relief in some patients, as has TENS therapy.[206] Acupuncture has been used with good results in the treatment of dysmenorrhea, and may be beneficial in pain reduction for CPP.[206] Immune modification using steroids and disease-modifying antirheumatic drugs, such as hydroxychloroquine, are known to inhibit inflammatory cells and cytokines, such as interleukin-1, interleukin-6, and tumor necrosis factor, which are responsible for pain and tissue damage. These drugs are found to be effective in the treatment of chronic pelvic pain of an inflammatory nature and for symptomatic chronic inflammation of the vagina.[201,206] Surgical interventions include laparoscopy for the lysis of pelvic adhesions or removal of endometrial tissue, or hysterectomy.

Although hysterectomy without an associated pathology has not proved effective, it is nonetheless indicated as a reason for hysterectomy in 10% to 15% of those performed in the United States.[199] According to one study, 25% of hysterectomy patients reported persistent pain 1 year after surgery.[198]

BOTANICAL TREATMENT

Effective botanical treatment of CPP requires a clear understanding of possible etiologies and the appropriate treatment of the underlying cause of the pain. For patients with diagnosed gynecologic conditions associated with pelvic pain, readers are referred to the relevant chapters in this textbook, such as, dysmenorrhea, interstitial cystitis, uterine fibroids, endometriosis, and so forth. Treatments discussed in the following may be used as adjunct palliative therapies for pain, inflammation, and concomitant symptoms in these conditions.

In the absence of a clearly identified pathology, the practitioner can approach treatment symptomatically via specific botanical treatments for pain reduction, and attempt to address mechanisms that may be associated with CPP, for example, inflammation. One theory of CPP that was popular among physicians in the early- and mid-twentieth century, and that is still considered a possibility, is that of ''pelvic congestion syndrome.''[8,198,206,207] Women with this syndrome, which is poorly defined, are thought to exhibit many of the symptoms associated with CPP, including aching and dragging sensations in the lower back, lower abdomen, and pelvis, dysmenorrhea, and dyspareunia. The theory of pelvic congestion parallels Chinese medical theory regarding various forms of gynecologic pain. Pelvic vascular congestion is thought to be a dynamic vascular process, similar to migraine headache, with drug inducible [dihydroergotamine (DHE) injection] reversibility of vascular dilatation.[206] As with CPP, symptoms are commonly accompanied by depression, fatigue, and insomnia. Upon pelvic exam or laparoscopy, the uterus may be found to be enlarged and tender and the pelvic vessels engorged. However, there is no direct correlation between vessel engorgement and pain; some women have either pain without engorgement or vice versa.[8] Herbalists may include herbs in a formulae to tonify and astringe the uterus and pelvic vessels, ostensibly to reduce pelvic congestion. Psychogenic causes may contribute to CPP. Although this should not be overemphasized, it should also not be overlooked. Chronic pain can affect nearly every aspect of a patient's life: physically, mentally, emotionally, socially, and even economically. Because chronic pain can lead to depression and anxiety, as well as to sleep disturbance, which can create a vicious cycle of psychoemotional upset and increased pain, care should be taken to approach pain holistically, including in protocol herbs that are restorative to the nervous system, for example, adaptogens and nervines, and when needed, anxiolytics or antidepressants.

IBS and inflammatory bowel syndromes are highly associated with CPP. Herbs commonly used for the treatment of CPP are listed in Table 7-7. Many of these

TABLE **7-7**

Botanical Treatment Strategies for Chronic Pelvic Pain

THERAPEUTIC GOAL	THERAPEUTIC ACTIVITY	BOTANICAL NAME	COMMON NAME
Pain relief	Analgesia	*Anemone pulsatilla*	Pulsatilla
		Actaea racemosa	Black cohosh
		Corydalis ambigua	Corydalis
		Eschscholzia californica	California poppy
		Piper methysticum	Kava kava
		Piscidea piscipula	Jamaican dogwood
		Viburnum spp.	Cramp bark, black haw
		Also see Dysmenorrhea	
Relief of pelvic muscle spasm	Antispasmodics	*Achillea millefolium*	Yarrow
		Angelica sinensis	Dong quai
		Dioscorea villosa	Wild yam
		Cannabis indica	Marijuana
		Actaea racemosa	Black cohosh
		Leonurus cardiaca	Motherwort
		Paeonia lactiflora	White peony
		Rehmannia glutinosa	Rehmannia
		Viburnum spp.	Cramp bark, black haw
		Zingiber officinale	Ginger
		Also see Dysmenorrhea	

Continued

TABLE 7-7

Botanical Treatment Strategies for Chronic Pelvic Pain—cont'd

THERAPEUTIC GOAL	THERAPEUTIC ACTIVITY	BOTANICAL NAME	COMMON NAME
Treatment of depression and anxiety	Antidepressants Anxiolytics	*Hypericum perforatum* *Lavandula officinalis* *Leonurus cardiaca* *Matricaria recutita* *Melissa officinalis* *Piper methysticum* Also see Chapter 18	St. John's wort Lavender Motherwort Chamomile Lemon balm Kava kava
Nervous system support	Adaptogens	*Cordyceps sinensis* *Eleutherococcus senticosus* *Panax quinquefolius* *Rhodiola rosea* *Withania somnifera* Also see Stress, Adaptation, the Hypothalamic-Pituitary-Adrenal-Axis (HPA) and Women's Health	Cordyceps Eleuthero American ginseng Rhodiola Ashwagandha
Reduce inflammation	Anti-inflammatories	*Angelica sinensis* *Glycyrrhiza officinale* *Oenothera biennis oil* *Paeonia lactiflora* *Salix* spp *Tanacetum parthenium* *Zingiber officinale*	Dong quai Licorice Evening primrose White peony Willow Feverfew Ginger
Digestive support; treatment of IBS and inflammatory bowel syndrome	Antispasmodics	*Achillea millefolium* *Dioscorea villosa* *Matricaria recutita* *Mentha piperita*	Yarrow Wild yam Chamomile Peppermint
Digestive support; treatment of IBS and inflammatory bowel syndrome	Astringents	*Achillea millefolium* *Hydrastis canadensis*	Yarrow Goldenseal
Digestive support; treatment of IBS and inflammatory bowel syndrome	Carminatives	*Matricaria recutita* *Mentha piperita* *Pimpinella anisum*	Chamomile Peppermint Anise
Digestive support; treatment of IBS and inflammatory bowel syndrome	Demulcents	*Ulmus rubra* *Althea officinalis*	Slippery elm Marshmallow
Digestive support; treatment of IBS and inflammatory bowel syndrome	Laxatives	*Glycyrrhiza glabra* *Taraxacum officinale* *Rumex crispus*	Licorice Dandelion root Yellow dock
Treat insomnia/sleep disorders	Anxiolytics Nervines Sedatives	*Anemone pulsatilla* *Piper methysticum* *Eschscholzia californica* Also see Chapter 18	Pulsatilla Kava kava California poppy
Treat possible pelvic congestion syndrome	Uterine tonics Venotonics	*Aesculus hippocastanum* *Caulophyllum thalictroides* *Alchemilla vulgaris* *Hydrastis canadensis* *Mitchella repens* *Rubus idaeus* *Viburnum* spp.	Horse chestnut Blue cohosh Lady's mantle Goldenseal Partridge berry Red raspberry Cramp bark, black haw

herbs are discussed elsewhere in this book or in Plant Profiles.

Analgesia

The history of botanical medicine reveals many herbs that have been used for the treatment of a variety of types of pain.[208] Many traditional medicines have actions such as inhibition of platelet-activating factor, cyclooxygenase, prostaglandin formation, or arachidonic acid pathways.[209] Although not typically as fast-acting as conventional medications, repeated appropriate dosing over a short period of time, such as 1 to 2 hours, and continued as needed, often leads to satisfactory temporary alleviation of pain. Several herbs are reputed for their efficacy in the treatment of pain of gynecologic origin, as well as more generally (see Dysmenorrhea).

Black Cohosh

Black cohosh has historically been used by Northeast Native American tribes as an analgesic and as an emmenagogue.[210] The Eclectics used a resin of black cohosh specifically as a uterine tonic and in the treatment of dysmenorrhea and a number of other painful spasmodic or cramping gynecologic complaints.[211] It was also used in the treatment of deep muscle drawing in the legs, loins, and back, dull aching of the bowels, ovarian pains of a dull, aching quality, dragging uterine pain, and delayed menses with dull pain and muscle soreness. Felter specifically describes a condition called ''rheumatism of the uterus'' for which this herb was prescribed.[99] The plant's anti-inflammatory and analgesic properties are attributed to its aromatic acids, which appear to inhibit prostaglandin production. The herb is approved for use in Germany for the treatment of premenstrual discomfort and menstrual cycle pain.[25]

California Poppy

California poppy (Fig. 7-6) traditionally has been prescribed for reducing pain and producing calm sleep without the potential dangers of conventional opiate drugs. It may be useful for painful conditions in which there is irritation or stimulation of afferent pain fibers, in disturbed sleep, and for anxiety.[108] Its medical use as an analgesic and sedative in the United States dates as far back as the late nineteenth century, even being included in the Parke-Davis catalog for these purposes, and as an excellent alternative to morphine without its side effects.[108,211] Today, California poppy is widely used by herbalists in tincture form. Pharmacologic data demonstrate sedative activity in vivo, as well as GABAergic activity, sedative and anxiolytic action, and dose-dependent analgesia (when administered by injection). Two controlled clinical trials, the herb, combined with Corydalis cava, both standardized extracts, demonstrated normalization of disturbed sleep without carryover effects or addiction.[108]

Corydalis

The Chinese botanical corydalis, is a strong and reliable analgesic. It is commonly used for headache, lumbar pain, abdominal pain, joint pain, menstrual pain, and other neurologic pain, making it specific for the symptoms associated with CPP. Alcohol and acetic acid extractions are the strongest, although powdered herb is considered effective as well. The mechanism of action of analgesia is thought to be inhibition of the reticular-activating system in the brainstem. Corydalis can increase the pain threshold significantly. Continuous use of corydalis results in tolerance and may theoretically lead to a cross-tolerance to morphine.[212,213] However, from a Chinese medical perspective the effects of corydalis are more than palliative as it is used to help promote pelvic circulation and therefore may treat underlying pelvic congestion. The alkaloids in this herb have sedative and hypnotic effects and act synergistically with barbiturates.[212] Chinese pharmaceutical companies have produced several preparations from corydalis alkaloids for use as analgesics. The available preparations include a 30-mg tablet containing all alkaloids and a 10% tincture used in doses of 5 mL three times daily.[212] Overdose leads to muscle relaxation and CNS depression. Corydalis is contraindicated in pregnancy.[32,212,213]

Figure 7-6 California poppy (*Eschscholzia californica*). (Photo by Martin Wall.)

Cramp Bark and Black Haw

Cramp bark and black haw were similarly used for the treatment of pelvic pain, particularly of a spasmodic nature, and specifically when accompanied by a sensation of dragging pressure in the groin and drawing pain in the legs.[31,211]

Jamaican Dogwood

Jamaican dogwood is a reliable analgesic and spasmolytic herb with mild sedative properties. It was prescribed by the Eclectics for neuralgias, spasmodic complaints, migraines, dysmenorrhea, nervous tension, insomnia, and nervous excitability, although Felter cautioned about potential toxic effects (including convulsions) in large doses.[99] Ellingwood elaborated on its effects in quieting uterine pains of labor, promoting rest, and having a specifically relaxing influence, in addition to its general analgesic effects. He stated that the herb ''acts in close harmony with the vegetable uterine remedies, promoting the influence of Macrotys [*Actaea racemosa*-black cohosh], the viburnums...pulsatilla and dioscorea among others.''[30] The spasmolytic activity of Jamaican dogwood may be attributable to its isoflavone constituents; however, this plant has been only minimally studied.[154] Combined in equal parts with cramp bark or black cohosh, this author has found it a highly effective treatment for gynecologic and pelvic pain of neuromuscular origin, for dysmenorrhea, endometrial pain, urinary tract infection, and other pelvic pain. It also may be used postsurgically as an alternative to conventional pain medications. Regarding its toxicity, it is advisable that the recommended dosage range not be exceeded and that the herb not be used by pregnant women, or patients with bradycardia or cardiac insufficiency.[108]

Kava kava

Kava kava has been used traditionally as a muscle relaxant to reduce anxiety and may be considered for the treatment of muscle spasms associated with CPP. Both aqueous and lipid soluble extracts of kava have demonstrated antinociceptive activity through nonopiate receptor mechanisms.[158] It is commonly used by herbalists for the treatment of pain as well as anxiety. (See Plant Profiles: Kava Kava for safety considerations.)

Pulsatilla

Pulsatilla (Fig. 7-7), also called pasque flower, has analgesic and sedative properties. It is listed in the British Herbal Compendium for the treatment of painful spasmodic conditions of the female reproductive systems and dysmenorrhea. It is generally used in tincture form. Fresh herb contains potentially irritant and toxic compounds; therefore, only dried plant should be used, and the herb should not be used during pregnancy. Overdose can lead to gastric irritation, coma, and convulsions; thus, it is essential that patients stay within the proper dosage range, and use be monitored by an experienced practitioner.[25,108] This herb is more commonly prescribed by naturopathic practitioners than herbalists in the United States, although it is also used by European herbalists.

Figure 7-7 Pulsatilla (*Anemone pulsatilla*). (Photo by Martin Wall.)

Black Cohosh, Cramp Bark, and Black Haw

Black cohosh, cramp bark, and black haw are traditionally used as uterine antispasmodics and analgesics, and are discussed throughout this text for these properties (see Dysmenorrhea and Plant Profiles). This three-herb combination administered as a tincture is especially effective for the treatment of pelvic aching and pain. (See Plant Profiles: Black Cohosh for safety considerations with this herb.)

Dong Quai and Peony

Dong quai and peony, in addition to their significant analgesic and spasmolytic actions, are considered herbs that ''move blood'' and relieve stasis or stagnation in TCM.[92,214–216] The TCM concept of uterine stasis is consistent with the Western concept of pelvic congestion syndrome described in the preceding. Additionally these herbs, often used together in combination, and often with the addition of licorice (*Glycyrrhiza glabra* or

G. uralensis) are considered effective for the treatment of a number of gynecologic conditions that may be involved in the etiology of CPP, such as dysmenorrhea, polycystic ovarian syndrome (PCOS), and uterine fibroids. The Japanese traditional formula TJ-68, Shakuyaku-kanzo-to (Chinese: shao-yao-gan-cao-tang), which contains concentrated white peony root and licorice, has been approved by the Japanese government for clinical use in the treatment of pain and acute muscle spasm, including dysmenorrhea.[108]

Marijuana

One herb, not available widely (or at least, legally available) for clinical use that has clinically demonstrated significant uterine antispasmodic and analgesic effects is *Cannabis indica*, more commonly referred to as marijuana (Fig. 7-8). This controversial medicinal plant and recreationally used herb has a long history of use for relief of uterine spasms and dysmenorrhea, considered by the Eclectics to be a ''soothing uterine tonic.''[30] In fact, its use is ancient, with references and artifacts of its use found widely in Middle Eastern, Ayurvedic, and Semitic writings, continuing through to its medical use in Europe well into the late nineteenth century for the treatment of a variety of gynecologic and obstetric conditions, not limited to but including dysmenorrhea. A pharmaceutical product from the late nineteenth century, Dysmenine Compound, produced by the Keysall Pharmical Company, Kansas City, MO, contained *Cannabis, Cypripedium, Scutellaria, Pulsatilla, Viburnum prunifolium, Caulophyllum, Viburnum opulus*, and *Capsicum*. The compound was indicated for dysmenorrhea, menstrual colic, and cramps.[217] Indeed, this formula is not very different from one that might be prescribed by herbalists today (see sample formulae in the following); however, minus the now illegal cannabis and the ecologically endangered lady's slipper orchid (*Cypripedium*). Although it is not possible given the current legal–medical climate surrounding the use of Cannabis to prescribe this herb clinically, it is worthwhile to note its use and possible beneficial effects, as these have likely not escaped those who manage to procure it for self-medication for the treatment of chronic or cyclic pelvic pain. Russo et al., in *Women and Cannabis: Medicine, Science, and Sociology*, provide substantial evidence of its use. They cite Grinspoon and Bakalar in their 1993 book *Marihuana, the forbidden medicine*, who discuss numerous case studies of women using cannabis effectively to treat PMS, menstrual cramps, and labor pain, and when used at low doses, without cognitive impairments. They also cite an Australian study of the uses of cannabis for obstetric and gynecologic complaints in which 51% of respondents indicated use for PMS or dysmenorrhea. Discussing this herb's appropriate use with patients, outside the context of prescribing or condoning its use, is therefore possibly important and appropriate. The mechanisms of action appear to be primarily through anti-inflammatory activities. An interesting approach for inflammation-mediated pelvic pain is the use of the seeds of the hemp plants, which are notably rich in gamma-linolenic acid, in which women with PMS and dysmenorrhea have found to be low. In one study, a daily dose of 150 to 200 mg of over 12 weeks greatly improved PMS related symptoms; this dose could be provided by a 5-mL daily dose of hemp seed oil.[217]

Figure 7-8 Dysmenine compound—old pharmacy bottle. (Photo by Ethan Russo.)

Motherwort

Motherwort (*Leonurus cardiaca*) is a classic herb for the treatment of pelvic pain. Its actions appear to modulate both relaxant and contractile activity of the uterus, perhaps with an overall effect of regulating a balance between the two for effective uterine muscle activity. The commonly used Western species *L. cardiaca* has barely been evaluated for its effects in gynecology, whereas Chinese species have been evaluated in several investigations and have been found to have stimulating effects on the myometrium in vivo. The effect on the uterine smooth muscle may be related to alteration of the ion concentration in relation to myoelectric activity, resulting in the increase of myoelectric activity of pace setter cells as well as in the acceleration of depolarization of spike activity.[218] Leonurine, a plant alkaloid present in Chinese motherwort, has demonstrated some efficacy as a vascular smooth tone inhibitor, possibly through inhibition of Ca^{2+} influx and the release of intracellular Ca^{2+}.[219] It is uncertain whether these findings and effects can be extrapolated to effects on uterine vascular tone. Other studies have demonstrated interesting effects on mediators of the inflammatory and coagulation pathways in relationship to coronary blood flow and alleviation of stasis that may have some correlation to the use of this herb in both TCM and Western herbal medicine to alleviate pelvic congestion (in TCM ''blood stasis'' or ''stagnation''). In one study of 105 patients, 94.5% showed improvements in reduction in blood viscosity and fibrinogen content, important both for healthy blood flow but

also in the prevention of release of inflammatory compounds associated with clot formation.[220] A Russian study reported on the soporific activity of a combination of equal parts of valerian, motherwort, and hawthorn (*Crataegus* spp.) in tincture form. This combination prolonged the soporific effect of sodium ethaminal.[221] The effects of motherwort (*L. cardiaca*) for the treatment of spasmodic uterine pain and pelvic congestion are predicated on historical and contemporary clinical use, for which it remains a popular choice in gynecologic formulae.

Wild Yam and Ginger

Wild yam and ginger are considered important herbs to include in the treatment of CPP, especially when it is associated with irritable bowel–type complaints, as they are both effective not only for treating spasmodic uterine complaints and, in the case of ginger, inflammation, they exert these actions in the digestive system, thus addressing what may be causal associations, or concomitant conditions that are mutually exacerbating.[25,108] These herbs may be used in combination in capsule or tincture form, and may be included in formulae with other herbs.

Yarrow

Yarrow, a favorite herb of many herbalists, has the interesting characteristic of being considered an effective antispasmodic for painful, cramp-like conditions of psychosomatic origin in the lower pelvis in women when used as a sitz bath.[95] It is also used for dyspeptic complaints, including mild, spastic discomforts of the gastrointestinal tract. This combination of qualities makes it a particularly interesting herb to consider for the treatment of CPP, especially when of psychogenic origin and/or when occurring in conjunction or as a result of irritable bowel disorders.

Antidepressants and Anxiolytics

Herbs of note that possess both antidepressant or anxiolytic activity, as well as analgesic or antispasmodic activity, include St. John's wort, kava kava, motherwort, and ashwagandha, the latter of which is also a respected adaptogen and whose analgesic effects are discussed elsewhere in this text (see Plant Profiles). Gentle nervines that are commonly used as adjunct teas in the treatment of mild depression include chamomile, lemon balm, and lavender. Lavender also may be used externally in baths for its soothing aromatherapeutic effects, as well as for mild topical analgesia for the vulva.

Adaptogens

The use of adaptogens in the treatment of CPP is primarily for the reduction of stress and anxiety, modulation of inflammation, and improvement of sleep disorders. They are part of a long-term treatment plan rather than quick-acting for specific symptoms (see Chapter 6 and Plant Profiles). Ashwagandha has specific analgesic activity, and is among the most specific of choices for CPP.

Anti-inflammatories

Dong Quai

Dong quai possesses antispasmodic, analgesic, anti-inflammatory antioxidant, uterine tonic, as well as specific immunomodulatory effects (see Plant Profiles). Immunostimulatory and anti-inflammatory effects have been attributed to isolated ferulic acid. It has been used traditionally in Chinese medicine for the treatment of ''blood vacuity'' and ''blood stasis,'' which may be considered related to CPP.[94]

Evening Primrose Oil

It is thought that the use of evening primrose oil (EPO), with its high gamma linoleic acid content, may preferentially promote the synthesis of anti-inflammatory prostaglandin series over inflammatory prostaglandins. One critical review of the effects of EPO for the treatment of PMS concluded that there was no benefit. However, in a study of women (n = 40) who experienced symptoms of irritable bowel syndrome (IBS) just prior to and at the onset of menstruation, 53% reported an improvement in symptoms, whereas no improvement was seen in the placebo group. Improvement generally took 2 to 3 months to become apparent. Blood analysis at the beginning and end of treatment revealed significant improvement in fatty acid imbalances in the EPO-treated group.[158]

Feverfew

Feverfew has exhibited inhibition of prostaglandin synthetase preventing the conversion of arachidonic acid to prostaglandins, inhibits mast cell degranulation and subsequent histamine and serotonin release, and has shown inhibition of other inflammatory cytokines such as TNF-α, IL-1, NFκB, and IFN-γ, as well as inhibiting peritoneal cyclooxygenase in animal models.[97] These effects suggest possible application of this herb to treat pain related to inflammation in CPP.

Ginger

Herbalists commonly use ginger root as an anti-inflammatory and antispasmodic herb for the treatment of pelvic pain and congestion, as an infusion, and also in hip baths and hot compresses over the affected area. No studies have been identified for its use for gynecologic complaints. Ginger remains popular among Western and TCM herbalists as an antispasmodic treatment for dysmenorrhea; however, no clinical trials have been done to evaluate its efficacy.[25] Ginger's historical use for treatment of digestive disorders may be applicable for women with concurrent abdominal discomfort resulting from digestive complaints.

Licorice

Licorice root is commonly included in formulae when an anti-inflammatory herb is indicated. It may be considered an effective anti-inflammatory activity without many of the most troubling side effects seen for drugs used as COX-2 and 5-LO inhibitors.[111] However, high

doses of licorice may exacerbate hypertension (see Plant Profiles).

Peony and Rehmannia

Two herbs commonly used in TCM formulae, peony and rehmannia, have demonstrated significant anti-inflammatory and antispasmodic activity.[22,25,108] Studies using a traditional formula containing both herbs have demonstrated prostaglandin production inhibition in the uterine myometrium via phospholipase A2 inhibition, whereas other studies have demonstrated arachidonic acid inhibition, PAF inhibition, reduction in free radical formation, and smooth muscle relaxation. Note that nearly all of the studies use these herbs in traditional formulae rather than in isolation, and that studies are conducted in animal models, and have focused on arthritis, ulcers, and other chronic inflammatory conditions. Licorice is frequently included in TCM formulae that also contain peony and Rehmannia, as is dong quai when these herbs are used for gynecologic conditions.

Uterine Tonics: Venotonics

Treatment of pelvic congestion syndrome incorporates a combination of therapeutic actions, including anti-inflammatory, uterine tonics, and herbs used as vascular tonics. Uterine tonics, which historically have included herbs such as blue cohosh, goldenseal, lady's mantle, motherwort, partridge berry, red raspberry leaf, and cramp bark and black haw, are thought to exert their efforts by improving the overall tone of the uterine smooth musculature and vasculature. Goldenseal, for example, typically regarded for its antimicrobial effects, was used extensively by the Eclectics for the treatment of uterine bleeding resulting from a variety of conditions, including endometriosis, fibroids, and changes associated with menopause.[211] Although no clinical studies have been conducted using whole herb, in vitro trials using berberine, one of the primary alkaloids in goldenseal, have demonstrated both uterine smooth muscles stimulant and inhibitory activity.[22] Aqueous extracts of red raspberry leaf also have demonstrated both stimulatory and inhibitory effects on uterine smooth muscle.[108] In fact, this paradoxic effect is seen with several of the herbs commonly used as both uterine tonics and spasmolytics, for example, cramp bark and black haw. It is thought that the effect of these dual activities is a normalization of uterine activity, and the promotion of smooth, nonspasmodic uterine muscle activity, thus improving tone and reducing pain.[222,223]

Several herbs with venotonic activity should be considered for the treatment of pelvic congestion in CPP. Most notable are blue cohosh and horse chestnut. Blue cohosh has demonstrated uterine tonic, vasoconstrictive activity, and continues to be used for the treatment of many gynecologic formulae in which a uterine tonic is required. Historically, it has been used for labor induction, amenorrhea, dysmenorrhea, menorrhagia, and to induce abortion.[195,224] Blue cohosh is listed in the British Herbal Pharmacopoeia (1983) as a spasmolytic and emmenagogue.[225] It also may be used as an ovarian tonic and for the treatment of a variety of menstrual complaints, including menorrhagia, amenorrhea, dysmenorrhea, and pelvic congestion syndrome.[8] Horse chestnut is used to improve circulation through vascular tonification, to improve venous tone in venous insufficiency, and for the relief of aching discomfort in the lower limbs associated with varicosities and for complaints associated with chronic venous insufficiency (CVI).[22,100,157] Traditionally, it was used in the treatment of neuralgia and ''conditions of venous congestion particularly with dull, aching pain and fullness.''[22] One studied demonstrated safe use for 56 months without harmful effects. Horse chestnut extract is the third most widely sold herbal product in Germany, where it is used long-term in clinical practice apparently without adverse effects.[100] There appears to be very low risk associated with proper administration, although it is recommended that only product standardized to its presumed active ingredient, escin (aescin) be used, and not to exceed 12 weeks at recommended doses.[157] Adverse effects from use of horse chestnut seed extract have included GI upset and calf spasm most commonly, with headache, nausea, and pruritus occurring less commonly. Overall, adverse effects are extremely rare, in an observational study occurring at a rate of less than 0.6% in more than 5000 subjects.

FORMULAE FOR CPP TREATMENT

The following is a small selection of possible formulae to illustrate formulation strategies for CPP treatment. These various formulae can be used concurrently, or elements from several may be combined to create a unique formula for individual patients. Other herbs discussed above may be substituted if they are more specifically indicated to a particular patient's presenting picture. Further, CPP treatment, as discussed, almost invariably requires readers to refer to other relevant sections of this book for

Formulae for Chronic Pelvic Pain

General Tincture for CPP: Uterine Tonic/Antispasmodic

Blue cohosh	(*Caulophyllum thalictroides*)	20 mL
Cramp bark	(*Viburnum opulus*)	20 mL
Peony	(*Paeonia lactiflora*)	20 mL
Motherwort	(*Leonurus cardiaca*)	15 mL
Horse chestnut	(*Aesculus hippocastanum*)	15 mL
Yarrow	(*Achillea millefolium*)	10 mL

Total: 100 mL

Dose: 5 mL twice daily

This formula is an example of one that combines a variety of actions into a general formula that can be used long-term and daily for the treatment of CPP for women with spasmodic pain and pelvic congestion. It can be combined with a more analgesic formula for moderate to strong pain.

Formulae for Chronic Pelvic Pain—cont'd

Pelvic Analgesic and Antispasmodic Tincture: Moderate to Strong Pain

Cramp bark	(*Viburnum opulus*)	40 mL
Wild yam	(*Dioscorea villosa*)	20 mL
Jamaican dogwood	(*Piscidea piscipula*)	15 mL
Corydalis	(*Corydalis ambigua*)	15 mL
Yarrow	(*Achillea millefolium*)	10 mL

Total: 100 mL

Dose: 2.5 mL taken as needed, up to 6 doses per day. DO NOT EXCEED THIS DOSE.

Immune Support and Stress Reduction Tincture

Ashwagandha	(*Withania somnifera*)	30 mL
Milky oats	(*Avena sativa*)	20 mL
Blue vervain	(*Verbena officinalis*)	20 mL
Licorice	(*Glycyrrhiza glabra*)	15 mL
Lemon balm	(*Melissa officinalis*)	15 mL

Total: 100 mL

Dose: 5 mL twice daily for 3 to 6 months

This formula exemplifies the use of both adaptogens and gentle nervines to create a formula for everyday use to improve nervous irritability, reduce anxiety, and improve well-being. The formula is also anti-inflammatory. See Plant Profile: Licorice for precautions on regular intake of this herb.

Insomnia/Sleep Disturbance Formula

See Insomnia.

External Treatments for Chronic Pelvic Pain

Ginger-Yarrow Sitz Bath

Ingredients:

Fresh ginger root: 4-in. section, grated

1 oz dried yarrow blossoms

Instructions:

Bring 2 quarts of water to a boil in a large pot and remove from heat source. Add the above ingredients and cover tightly. Allow to steep for 20 to 30 minutes. Fill bathtub to patients waist height with water that is as hot as patient can comfortably tolerate. Strain the liquid into the tub, discarding the spent herbal matter. Soak. Repeat regularly as needed.

Medicated Analgesic Massage Ointment

To 2 ounces of a pre-made unmedicated ointment base (see Elan Botanicals in Resources) add:

15 mL tincture of *Viburnum opulus*

10 ml tincture of *Capsicum*

5 mL tincture of *Lobelia inflata*

Mix thoroughly (product may occasionally require mixing prior to use). Apply to lower back, pelvis, and backs of thighs as needed. Avoid contact with mucous membranes and eyes, because contact will cause burning.

treatment options, for example, dysmenorrhea or interstitial cystitis.

DIETARY CONSIDERATIONS

Dietary changes are indicated when the client suffers from digestive complaints such as constipation, bloating, flatulence, overweight, lethargy, excessive fatigue, or irritability accompanying CPP.[198] Achieving an optimal weight and stable blood sugar may lead to improvements in digestion and mood, and increasing dietary fiber and fluids can lead to reduction in constipation and bloating.[198] Additionally, a Mediterranean-type diet with the addition of high quality essential fatty acids can reduce the production of inflammatory mediators, and thus be beneficial in chronic pain reduction. Consider calcium and magnesium supplementation for relief of muscle spasm.

ADDITIONAL THERAPIES

Muscle Relaxation and Re-education, Biofeedback, and Electrical Stimulation

Muscle tension in the pelvis, hips, and lower back may be caused by, or lead to CPP. Helping a woman to identify and relax tension, become aware of and adjust her body mechanics and standing and sitting posture, and wear appropriate shoes to minimize postural problems can help to reduce pain caused by structural imbalances. Pelvic relaxation training techniques should be taught and practiced regularly. Much of this can be done at home, but physical therapy can be helpful if there is limited joint movement or muscular problems. Prolonged sitting or standing can aggravate CPP, so patients may need suggestions and supportive counseling for modifying jobs or activities that require positions that exacerbate the problem. Exercises such as running or high-impact aerobics also may be aggravating, and should be replaced with gentler, relaxing forms of exercise, for example, walking, tai chi, yoga, or dance.[226] Physical therapy for the treatment of musculoskeletal problems or postural problems can be beneficial for women with CPP.[227]

Biofeedback machines can be effective in helping women to identify and improve the effectiveness of pelvic muscle relaxation techniques for acquired muscle tension. The woman is instructed to visualize and practice muscle relaxation techniques while using a biofeedback device for feedback on the relaxation efforts.

Electrical stimulation using vaginal, rectal, or surface electrodes is used to produce rhythmic contraction and relaxation of the pelvic floor muscles. Electrical stimulation may give immediate reduction in the level of pain early in treatment, restore more normal muscle activity patterns over time, and also may help to disperse inflammatory mediators caused by chronic muscle spasm.[228–230]

Uterine Displacement–Mayan Uterine Massage

It has been suggested that uterine retrodisplacement can lead to symptoms of CPP.[198] Although the role of pelvic tension and improper posture in the etiology of CPP is accepted, conventional medicine does not address the potential for uterine displacement, other than prolapse associated with pelvic relaxation as an etiologic factor. Mayan uterine massage is a practice introduced into the United States by Rosita Arviga, after dedicated study with a Belizean shaman who specialized in this technique. Ms. Arviga trains and certifies people in this technique and it has grown in popularity because of many anecdotal reports of success for the treatment of vague but sometimes debilitating complaints such as CPP, as well as for many other gynecologic problems. The treatment is predicated on the belief that uterine displacement, which may occur as a result of childbearing, poor posture, sedentary lifestyle, improper carrying and work habits, etc., can lead to significant pelvic congestion, gynecologic, nervous, circulatory, and digestive problems. No studies have been done to objectively demonstrate efficacy. The practice appears generally noninvasive (it is an intervention); however, it should not be used for pregnant women.

TREATMENT SUMMARY FOR CHRONIC PELVIC PAIN

- Symptomatic pain relief can be achieved with herbal analgesics and antispasmodics. Sedatives can be used if pain interferes with sleep.
- Anxiety and depression commonly associated with CPP can be treated with botanical anxiolytics and antidepressants which may be combined with herbs for pain relief and sleep promotion.
- Reduce inflammation with herbs, an anti-inflammatory diet, including EFA supplementation.
- Treat underlying or associated digestive problems such as bloating, constipation, or IBS.
- Treat underlying or associated gynecologic or menstrual problems, for example, ovarian cysts, dysmenorrhea, or endometriosis.
- Treat underlying or associated urinary problems such as UTI or interstitial cystitis.
- Treat pelvic congestion syndrome with herbs that stimulate pelvic circulation.
- Use external treatments such as sitz baths and massage with analgesic essential oils to improve pelvic circulation and relieve pain.
- Employ muscle relaxation techniques, pelvic muscle re-education, biofeedback, or electrical stimulation to retrain muscle patterns and relieve pain.
- Mayan uterine massage may be a helpful technique for relieving pain and pelvic adhesions or uterine displacement.
- Achieve a healthy body weight, good posture, and adequate exercise.
- Supplement with calcium and magnesium for relief of muscle spasms.

SUMMARY

A number of conditions of the reproductive organs can be treated with botanical medicine. Table 7-8 includes a summary of the herbs used to treat these conditions.

TABLE **7-8**

Condition/Botanical Medicine Summary Table

	BENIGN BREAST DISORDER	CERVICAL DYSPLASIA	CHRONIC PELVIC PAIN	ENDOMETRIOSIS	UTERINE FIBROIDS
Achillea millefolium			X	X	X
Actaea racemosa			X	X	X
Aesculus hippocastanum			X		
Alchemilla vulgaris			X	X	X
Althea officinalis		X	X		
Ananas comosus		X			
Anemone pulsatilla			X	X	
Angelica sinensis	X		X	X	
Astragalus membranaceus				X	
Berberis vulgaris					X
Calendula officinalis	X	X		X	
Camellia chinensis				X	X
Cannabis indica			X		
Capsella bursa-pastoris					X
Caulophyllum thalictroides	X		X		X
Ceanothus spp.					
Chelidonium majus					X
Chionanthus virginicus	X			X	

Continued