

# Black Cohosh

BENJAMIN KLIGLER, M.D., M.P.H., Albert Einstein College of Medicine, New York, New York

**The herb black cohosh, or *Actaea racemosa* (formerly named *Cimicifuga racemosa*), is native to North America. The roots and rhizomes of this herb are widely used in the treatment of menopausal symptoms and menstrual dysfunction. Studies have demonstrated that this botanic medicine, when standardized properly to the terpene glycoside fraction, appears to be effective in alleviating menopausal symptoms. Adverse effects are extremely uncommon, and there are no known significant adverse drug interactions. (Am Fam Physician 2003;68:114-6. Copyright© 2003 American Academy of Family Physicians.)**

**T**he herb black cohosh, or *Actaea racemosa* (formerly named *Cimicifuga racemosa*), is native to North America. The roots and rhizomes are widely used in the treatment of menopausal symptoms and menstrual dysfunction. Black cohosh was originally used by Native American peoples in the treatment of many conditions, especially gynecologic disorders.<sup>1</sup> The most widely used and best studied commercial formulation available in the United States is Remifemin, an extract of the rhizome that is produced by a German company. Numerous other brands of black cohosh are available, but not all are standardized extracts. Black cohosh should not be confused with the blue cohosh herb (also known as *Caulophyllum thalictroides*), which is used for different indications and has a greater potential for toxicity.

## Pharmacology

The primary active constituent of the black cohosh root is believed to be the terpene glycoside fraction, including actein and cimifugoside. The rhizome also contains other potentially biologically active substances, including alkaloids, flavonoids, and tannins. The therapeutic activity of black cohosh was originally believed to derive from an activation of estrogen receptors; however, more recent studies<sup>2,3</sup> show that although some constituents of the extract bind to at least one subtype of estrogen receptors, this binding produces very little, if any, estrogenic effect, and may selectively block some of these effects.

One early study<sup>4</sup> reported that treatment

with black cohosh produced a decrease in luteinizing hormone (LH) levels consistent with an estrogenic effect; however, more recent studies<sup>5,6</sup> have shown no effect on levels of LH, follicle-stimulating hormone (FSH), or prolactin. It remains unclear whether black cohosh exerts its effect via estrogen receptors or through another mechanism.

## Uses and Efficacy

Currently, the primary use of black cohosh extract is for alleviation of menopausal symptoms. The American College of Obstetrics and Gynecology guidelines on the use of botanicals for the management of menopausal symptoms support this use for up to six months, especially in treating the symptoms of sleep and mood disturbance, and hot flashes.<sup>7</sup> [Evidence level C, consensus/expert guidelines] At least eight studies of black cohosh therapy for menopausal symptoms, involving approximately 2,000 women, have been published, most of them in German.<sup>3</sup> Many of these studies used an estrogen product in the control group, and most of the trials used standardized outcome measures such as the Kupperman Menopause Index and the Hamilton Anxiety Scale. Almost all of these studies demonstrate efficacy in patients taking black cohosh extract similar to that of estrogen in the treatment of neurovegetative menopausal symptoms. Unfortunately, most of these studies are open trials and lack blinding and long-term follow-up, making it difficult to draw definitive conclusions from their results.

As with other herbal medicines believed to have potential estrogenic effects, there has been

*See page 18 for definitions of strength-of-evidence levels.*

a concern about the safety of black cohosh in women with a personal history or strong family history of breast cancer. Although further research is needed, at least one tissue-culture study<sup>2</sup> showed no stimulation of estrogen receptor-positive breast cancer cell lines by black cohosh extract. This study<sup>2</sup> found that black cohosh extract increased the inhibitory effect of tamoxifen (Nolvadex) on the breast cancer cell lines. Because this question has not yet been resolved, physicians should discuss the issue with their patients who are at risk for breast cancer and are considering taking black cohosh. In a study that included 69 patients and examined black cohosh as a treatment for hot flushes in women with breast cancer, it was found to be no more effective than placebo, regardless of whether the hot flushes were induced by tamoxifen or by natural menopause.<sup>6</sup> [Evidence level A, randomized controlled trial]

Black cohosh also has been used to treat dysmenorrhea and is recommended for this indication by the German Commission E,<sup>8</sup> which establishes guidelines for the proper use of herbs in Germany. However, this recommendation is based on case reports, and there are no randomized clinical trials supporting the use of black cohosh for this indication.

### **Interactions, Adverse Effects, and Contraindications**

With the exception of a possible interaction with tamoxifen, there are no known interactions between black cohosh extract and any medications.<sup>8</sup> In clinical studies,<sup>8</sup> the only adverse effect reported with any significant frequency was gastrointestinal discomfort. In larger doses, black cohosh can cause dizziness, headaches, giddiness, nausea, and vomiting.<sup>9</sup> One case report<sup>10</sup> centers on a woman who developed a seizure after taking a combination of black cohosh, chasteberry, and evening primrose oil, but no clear cause-and-effect relationship was documented. No other reports of seizure in association with black cohosh have been published.

Black cohosh is contraindicated during pregnancy because of its potential ability to stimulate uterine contraction.<sup>11</sup> The safety of black cohosh in breastfeeding mothers and the degree of transmission of black cohosh in breast milk are unknown. Controversy remains regarding the safety of black cohosh in women with a personal history or strong family history of breast cancer.

### **Dosage**

Most studies of black cohosh have used the extract known as Remifemin, which is standardized to contain 1 mg of terpene glycosides per 20-mg tablet. The most commonly used dosage of Remifemin is two 20-mg tablets twice daily. Maximum effect usually occurs in four to eight weeks.

Recent information from the manufacturer suggests that a dosage of 20 mg twice daily may be as effective in the treatment of menopausal symptoms as 40 mg twice daily.<sup>5</sup> Black cohosh extract also is available in tincture form; the proper dosage of the tincture is 2 mL twice daily of a 1:1 tincture in 90 percent alcohol.<sup>8</sup>

### **Final Comment**

Although the clinical trials on black cohosh are of insufficient quality to support definitive statements, this herbal medicine does appear to be effective in the short-term treatment of menopausal symptoms. The mechanism of action is unclear, and early reports of an estrogenic effect have not been proved in recent studies. Some patients will assume that, because black cohosh provides some of the same benefits as hormone therapy in terms of symptom control, the additional salutary effects of hormone therapy can be achieved with the use of black cohosh. Physicians should be quite clear in explaining to their patients that although black cohosh may be useful in treating some menopausal symptoms, there is currently no evidence regarding any protective effect of black cohosh against the development of osteoporosis.

**TABLE 1**  
**Key Points About Black Cohosh**

Efficacy	Menopause symptoms: appears effective, but rigorous RCTs are lacking
Adverse effects	Infrequent: gastrointestinal discomfort Rare: dizziness, headache, giddiness, nausea, vomiting*
Interactions	No significant herb-drug interactions with black cohosh have been reported; possible interaction with tamoxifen (Nolvadex)
Dosage	In capsule-form, 40 mg twice daily of Remifemin (standardized extract); 20 mg twice daily may be as effective; in tincture form, 2 mL twice daily of a 1:1 tincture in 90 percent alcohol
Cost	\$16 to \$23 per month at the 20-mg, twice-daily dosage
Bottom line	Safe herbal medicine; appears to be effective in treating symptoms of menopause

*RCT = randomized controlled trials.*

*\*—These rare adverse effects usually occur only when black cohosh is taken in larger dosages.*

An additional concern exists about the safety of this herb in long-term use, particularly the possibility that it can cause long-term unopposed estrogenic stimulation of the endometrium, thus raising the risk of development of endometrial cancer. Although studies have not shown any effect on vaginal cytology, the effect of black cohosh extract on the endometrium has not been adequately studied. Some physicians recommend that women using black cohosh on a long-term basis be given a progesterone as well. *Table 1* discusses the efficacy, safety, tolerability, and cost of black cohosh.

*The author indicates that he does not have any conflicts of interest. Sources of funding: none reported.*

## REFERENCES

1. Foster S. Black cohosh: *Cimicifuga racemosa*: a literature review. *HerbalGram* 1999;45:35-50.
2. McKenna DJ, Jones K, Humphrey S, Hughes K. Black cohosh: efficacy, safety, and use in clinical and preclinical applications. *Altern Ther Health Med* 2001;7:93-100.
3. Dog TL, Riley D, Carter T. An integrative approach to menopause. *Altern Ther Health Med* 2001;7:45-55.
4. Duker EM, Kopanski L, Jarry H, Wuttke W. Effects of extracts from *Cimicifuga racemosa* on gonadotropin release in menopausal women and ovariectomized rats. *Planta Med* 1991;57:420-4.
5. Liske E, Wustenberg P. Therapy of climacteric complaints with *cimicifuga racemosa*: herbal medicine with clinically proven evidence [Abstract]. *Menopause* 1998;5:250.
6. Jacobson JS, Troxel AB, Evans J, Klaus L, Vahdat L, Kinne D, et al. Randomized trial of black cohosh for the treatment of hot flashes among women with a history of breast cancer. *J Clin Oncol* 2001; 19:2739-45.
7. ACOG Practice Bulletin. Clinical Management Guidelines for Obstetrician-Gynecologists. Use of botanicals for management of menopausal symptoms. *Obstet Gynecol* 2001;97:suppl 1-11.
8. Blumenthal M. German Federal Institute for Drugs and Medical Devices. Commission E. The Complete German Commission E monographs: therapeutic guide to herbal medicines. Austin, Tex.: American Botanical Council, 1998.
9. Duke JA. CRC handbook of medicinal herbs. Boca Raton, Fla.: CRC Press, 1985.
10. Shuster J. Black cohosh root? Chasteberry tree? Seizures! *Hospital Pharmacy [USA]* 1996;31:1553-4.
11. Brinker FJ. Herb contraindications and drug interactions: with extensive appendices addressing specific conditions, herb effects, critical medications, and nutritional supplements. 2d ed. Sandy, Ore.: Eclectic Medical, 1998.

## The Author

BENJAMIN KLIGLER, M.D., M.P.H., is assistant professor in the Department of Family Medicine at Albert Einstein College of Medicine, New York, N.Y., and teaches in the Beth Israel Residency Program in Urban Family Practice, New York. Dr. Kligler also serves as co-director of the fellowship program in integrative medicine at the Continuum Center for Health and Healing in New York. He received his medical and public health degrees from Boston University School of Medicine and completed a family practice residency at Montefiore Medical Center, Bronx, N.Y.

*Address correspondence to Benjamin Kligler, M.D., M.P.H., Beth Israel Center for Health and Healing, 245 Fifth Avenue, New York, NY 10016 (e-mail: bkligler@bethisraelny.org). Reprints are not available from the author.*