



Hormone Replacement Therapy (HRT): *Risks & Dietary Supplement Alternatives*

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Literature Education Series On Dietary Supplements

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Many physicians routinely prescribe hormone replacement therapy (HRT) to postmenopausal or even perimenopausal women. As a matter of fact, about 17.5 million American women were taking HRT in 1998, according to a national survey. HRT, however, is not without its health risks. Before discussing HRT risks and alternatives, let's first examine the rationale for HRT in association with menopause.

Menopause: Physiological Changes

Menopause refers to the stopping of menstruation and the end of the reproductive capacity of a woman. This event usually occurs around age 50 but may happen prematurely in some individuals before age 45 or artificially by the removal of the ovaries during a hysterectomy. As many as ten years before menopause, the ovaries begin to cease normal function. During this time, many basic physiological changes occur, including failure to ovulate; a decreased number of developing follicles and oocytes; a decreased level of the hormones estrogen and progesterone; and a rapid rise in follicle stimulating hormone (FSH), a pituitary hormone, as well as a gradual rise in luteinizing hormone (LH). These ovarian changes eventually result in the cessation of menstruation (amenorrhea) and infertility. In the years before menopause a woman may have irregular uterine bleeding, heavy enough in some instances to produce anemia. Postmenopausal bleeding indicates a need for immediate medical attention, because the incidence of uterine or cervical cancer after menopause ranges from 15 to 30% of women.

Menopause: Symptomology

Most symptoms that occur during menopause result directly from the estrogen deficiency produced by the failing ovaries. It can be difficult to distinguish these symptoms from those caused by the normal aging process or from the social and domestic pressures faced by middle-aged women. Physical symptoms include hot flashes, night sweating, and tension or migraine headaches. These temporary symptoms contribute to the overall irritability and insomnia that normally occurs during this time. Osteoporosis, caused by severe or prolonged bone loss as a result of estrogen deficiency, affects 35% of women after a natural menopause. Psychological symptoms of menopause may include anxiety, depression, irritability, diminished energy, difficulty with concentration, and tension. Many women experience heightened libido after menopause because they know they can no longer get pregnant. However, emotional problems can cause a decline in sexual activity in some women.

The Benefits of HRT

Conventional medical treatment for menopause often involves HRT pharmaceutical hormones. It has been well documented for several decades that HRT can be an effective remedy for the hot flashes and sleep disturbances that often accompany menopause. Hormone replacement therapy has also consistently been shown to decrease vaginal discomfort by increasing the thickness, elasticity, and lubricating ability of vaginal tissue. Urinary tract tissue also becomes thicker and more elastic, which may reduce the incidence of stress incontinence and urinary tract infections. Furthermore, some physicians and medical agencies have advised that HRT may even decrease the risk for heart disease in postmenopausal women. These potential benefits of HRT are all well and good—and if this were the end of the story, I wouldn't have written this article. Unfortunately, there is health risks associated with HRT.

The Risks of HRT

Heretofore, the main concerns about HRT centered on the risk of endometrial cancer, ovarian cancer, and breast cancer, especially after long-term use (more

than 10 years).¹ For example, some studies suggest that HRT is associated with a 1% to 30% increase in the risk of breast cancer.² Another study conducted by the American Cancer Society followed 211,581 postmenopausal women who had no history of cancer at the time of enrollment. Results of followup from 1982 through 1996 showed that women who used HRT for 10 or more years had an increased risk of dying from ovarian cancer, compared with women who had never used HRT or had used it for less than 10 years.³

Likewise, the Million Women Study, a trial in the United Kingdom of postmenopausal women, has found that those receiving HRT were, on average, 20% more likely to develop and die from ovarian cancer than women who never received therapy. Since 1991, use of HRT has resulted in about 1300 additional ovarian cancers in the United Kingdom.⁴

Another potential risk issue associated with HRT is in regard to cardiovascular health. Recommendations by the American Heart Association, released on July 23, 2001, indicate that women who have had a heart attack or stroke do not benefit from HRT and may even increase their risk of suffering another attack.

This is based upon research where researchers randomly assigned women with known heart disease to take either hormones or a placebo. The researchers found no difference between the two groups in fatal or nonfatal heart attacks after four years. In the first year of the study, women taking hormones had 52 percent more heart-related illnesses than the placebo group. Then, a separate study testing estrogen in women with a previous stroke found that those who took the hormone suffered a higher incidence of fatal strokes than those who took a placebo.⁵

This new AHA position removes one of the main reasons many women take hormones—to reduce their risk of heart disease, which kills more than 226,000 American women a year, making it the No. 1 cause of death in U.S. women.

Finally, a landmark study was published in the July 2002 issue of *JAMA*, which included 16608 postmenopausal women aged 50-79 who were using HRT as Estrogen plus progestin. The researchers found a significantly increased their risk of a heart attack or stroke beginning in women's first year of HRT use. In addition, the risk of breast cancer jumped after four years of HRT use. The researchers concluded that overall health risks exceeded benefits from use of combined estrogen plus progestin, and that “the results indicate that this regimen should not be initiated or continued for primary prevention of CHD [coronary heart disease].”⁶

Does all this mean that women who are currently

using HRT should discontinue their medication; or that women who are not yet using HRT should not do so? After the aforementioned JAMA study was published, the position of the National Institutes of Health (who sponsored the study) was to urge women who currently use HRT to talk with their doctors about what to do.⁷ In some cases, women who are concerned about conventional HRT have turned to natural HRT alternatives.

Hormone Modulators & Phytoestrogens: Natural Alternatives to HRT

Natural alternatives to HRT include the use of hormone modulators or phytoestrogens. Hormone modulators are herbs (or other natural substances) that act by poorly understood mechanisms to positively influence hormonal metabolism. An example of an herbal estrogen modulator is Black Cohosh. Phytoestrogens are natural components from plants which bind to estrogen receptors in the body. Make no mistake, phytoestrogens are not actually estrogen, but since they are capable of binding to estrogen receptors, they can “fool” the body into thinking and reacting as though there were more estrogen present. Furthermore, since they are not actually estrogen, phytoestrogens are not generally a risk factor in the development of breast or female reproductive system cancers. As a matter of fact, research suggests that certain phytoestrogens may even help to reduce the risk of these cancers, and promote a healthy cardiovascular system. Some of the most effective phytoestrogens can be found in Soy and Red Clover Leaf.

In fact, The American College of Obstetricians and Gynecologists (ACOG) now recommends three botanicals for management of menopausal symptoms. These are Black Cohosh, Soy bean (isoflavones) and St. John’s Wort (SJW for symptoms of depression, not for any direct impact on female hormonal biochemistry).⁸

Herb	Dosage	Rationale
Black Cohosh (2.5% Triterpine glycosides as 27-Deoxyactein)	160 mg daily	Estrogen modulator; may reduce menopausal symptoms
Soy Isoflavones	90 mg daily	Phytoestrogen; may reduce menopausal symptoms female cancer risk
Red Clover Leaf Extract (3% Biochanin A, 4.8%)	125-250 mg daily	Phytoestrogen properties; improved

Formononetin, 0.5%Daidzein)		cardiovascular function after menopause
Sage leaf extract (2.5% Rosmarinic acid, 3.0-3.5% Essential Oils)	500 mg daily	May reduce night sweats

Black Cohosh (*Actaea racemosa*, Syn: *Cimicifuga racemosa*)

Black Cohosh has a long and successful history as a support herb used by menopausal women. An extract of Black Cohosh has been shown to reduce luteinizing hormone (LH) secretion.^{9 10} Surges of LH are associated with hot flashes in menopausal women.

A standardized extract of Black Cohosh has created a great deal of excitement internationally due to the results of a large open study employing 131 doctors and 629 patients. The type of extract used standardized for its triterpene glycosides, calculated as 27-deoxyacteine. Within six to eight weeks, over 80% of the patients experienced improvements in both physical and psychological symptoms. These symptoms included hot flashes, profuse perspiration, headache, vertigo, heart palpitation, ringing in the ears, nervousness/irritability, sleep disturbances, and depressive moods. Most patients reported noticeable benefits within four weeks. After six to eight weeks complete resolution of symptoms were achieved in a high number of patients.¹¹

Soy (*Glycine max*)

The protein fractions of soybeans contain an interesting group of substances called isoflavones. The ACOG suggests that short-term use of the phytoestrogens in soy may be helpful for relieving hot flashes and night sweats.¹² This is consistent with other research which found an association between societies that have a high consumption of soy products and a low incidence of hot flashes during menopause.¹³ As a matter of fact, in one double-blind study, 60 grams of soy protein caused a 33% decrease in the number of hot flashes after four weeks, as well as a 45% reduction after twelve weeks.¹⁴ Other research has reported significant reduction in the number of hot flashes associated with soy consumption.¹⁵ In addition, research also indicates that these isoflavones may provide some very specific benefits, including cancer prevention¹⁶, cholesterol reduction^{18 19 20}, and building bone density.^{21 22}

Based on the consumption of soy in the studies cited, the effective dose of total soy isoflavones ranges between 30 mg and 90 mg as an isolated and concentrated isoflavone preparation, or as a component of soy protein, when consumed in quantities of 40 to 47 grams. Although there are

certainly health benefits to warrant it, Westerners may find it difficult to consume up to 47 grams of protein daily. Consequently, a concentrated soy isoflavone supplement may be a preferable alternative for many. Such supplements are available in about a 600 mg per tablet dose, with anywhere from a 1.36% standardization of isoflavones, up to a 20% standardization. The 20% standardization is probably the best route to go, since an effective dose of isoflavones would only require one tablet (versus up to 11 tablets of the 1.36% product).

Red Clover (*Trifolium pratense*)

Red Clover has some of the same isoflavones found in soy protein, but one of its primary phytoestrogens is biochanin.²³ As a phytoestrogen-containing herb, it has one of the highest abilities to bind with estrogen receptor sites.²⁴ This effect is so pronounced, that sheep who had their ovaries removed experienced clinically significant changes when fed a large amount (7.7 lbs) of red clover, providing 6.1 grams of its phytoestrogens. These changes included a healthier increase in the weight of their reproductive organs, and a change in color of their vulva from pink to red, teat length and circumference increased, and secretion of milky fluid began.²⁵

Of course these extreme changes reflect the exceedingly large amount of red clover consumed. But is there a benefit to menopausal women who consume a more modest dose of red clover? In one study, menopausal women were treated with red clover that provided 40-80 mg of the phytoestrogens. The results were that healthy functioning of the arteries, which diminishes with menopause and is an increased cardiovascular disease risk factor, was significantly improved with red clover. The

researchers in this study concluded that, the findings indicate a potential new therapeutic approach for improved cardiovascular function after menopause [with red clover].²⁶ In addition, ethnobotanist Steven Foster has described some research which even shows that the phytoestrogens in Red Clover was found to inhibit the activation of cancer cells.²⁷

Sage (*Salvia officinalis*)

Sage does not have phytoestrogens or hormone modulating properties, but it is nonetheless a great herbal medicine with a traditional use of helping to treat “night sweats” experienced by menopausal women. In fact a review published in the European Journal of Herbal Medicine indicates that herbalists routinely prescribe sage to treat symptoms of menopause.²⁸ Germany’s *Commission E Monographs* (an internationally authoritative source of credible information on the use of herbs for various disorders) has also approved sage for Sage for the treatment of excessive perspiration.²⁹ In addition, research has

shown that an extract of sage had antihyperhidrotic (i.e., antiperspiration) activity, and reduced excessive sweating induced by a drug.³⁰ Furthermore, in an open study patients with excessive perspiration experienced a significant reduction in sweating (less than 50%) with an infusion or extract of sage leaf.²⁹

Conclusion

Given the recent and ongoing concerns about health risks associated with HRT, the use of natural hormone modulators and phytoestrogen supplements may be a wise alternative. I encourage women to discuss this option with their health care professionals.

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