Menopause & the risk of H.R.T.

Menopause is the time at which a woman's monthly menses permanently stop because the ovaries cease to function. It takes place at 51-52 years of age on the average, but can range anywhere from 40 to 57 years of age if it is naturally occurring. Surgical removal of the ovaries, irradiation or chemotherapy treatment that destroys normal ovarian function could occur at any age, however. If naturally occurring menopause takes place before the age of 40, it is designated as premature and often caused by medical diseases. Smoking decreases the age of menopause but only by about 1 1/2 years.

Is there such a thing as perimenopause?

Perimenopause is time before and after menopause during which symptoms due to the loss of ovarian function begin and finally reach their maximum effect. The perimenopausal period begins on the average at about 47 1/2 years. That is the time at which many women will note some menstrual irregularity. Actually only 10% of women have an abrupt cessation of menses with no period of irregular menses preceding it. Thus, the perimenopause lasts approximately four years in duration before menses totally stop.

What are hot flashes?

The hot flash, or vasomotor flush, is thought to be the major symptom of menopause. This describes a reddening over the head, neck and chest and the feeling of intense body heat. The hot flush represents a sudden, inappropriate excitement of the body's heat release mechanisms. It often finishes by profuse perspiration. It can last from several seconds to several minutes but rarely it can last up to an hour. The flushes occur more frequently at night or during times of stress, or in a hot environment. At least 10% of women experience hot flushes in the perimenopausal period before menstrual function ceases altogether. After menstrual periods stop completely, still only 50% of women will have hot flushes. By approximately 4 years after menopause, only 20% of women will still report these flushes. The hot flash usually coincides with a surge of luteinizing hormone (LH) and it is often preceded by a subjective awareness that the flush is beginning. The hot flash is closely associated with the reduction of a woman's normal estrogen levels. In some disease states where there is no estrogen being produced by a woman, hot flashes do not occur unless the woman has taken extra estrogen (by pill, shot, or patch). If a woman has received extra estrogen, then discontinuation of the estrogen produces a hot flash, but if she has never received estrogen she does not experience hot flashes.

It is important to keep in mind that while the hot flush is the most common presenting problem of menopause, it does not represent an inherent health hazard. It causes sleep disturbances and keeps women awake at night, but other than that it does not appear to be medically harmful. It can have causes other than menopause. Stress reactions, thyroid abnormalities, alcohol and certain foods can also produce hot flushes.

What are other symptoms of menopause?

Many psychological effects have been attributed to menopause but in general these are not scientifically supported. Depression is actually less common, not more common, among menopausal women. Many of the psychological problems reported at menopause are mostly due to life circumstances rather than the actual endocrine events of menopause. While problems such as fatigue, nervousness, headaches, insomnia, depression, irritability, joint and muscle pain, dizziness and palpitations are often reported, it is not clear that menopause causes any of these things. It may be that the lack of estrogen contributes to these problems if they are already existent.

There is a "domino" effect that is ascribed to estrogen replacement therapy in that many of the problems attributed to menopause get better because the hot flushes are being treated. It is likely that the hot flushes produce sleep disturbances and diminish the ability to handle the next day's stressful events. Sleep deprivation is well known to be associated with increased irritability, fatigue and headache. In scientific studies, depression does not seem to be more common among women who are not given estrogen replacement therapy compared to those women who are. It is likely, however, that depressed women often seek hormone therapy much more so during the menopause. Many of the improvements in memory function and reduction of anxiety that is ascribed to estrogen therapy in the menopause are likely to be due to relieving the hot flushes themselves directly. Without those distracting vasomotor symptoms, other problems seem to improve and are not as prominent compared to those menopausal women who do not have hot flushes in the first place.

Does sexual function change during the menopause?

There are two primary sexual changes in the aging woman.(1) Vaginal lubricating fluid is reduced in volume and there is loss of vaginal elasticity. This results in pain with sexual relations because of the feeling of dryness and tightness of the vagina. Women will complain of burning with sexual relations and vaginal irritation and soreness. This is less of a problem in the sexually active woman who is having vaginal intercourse on a regular weekly or more basis. If the frequency of intercourse is less than weekly, this dryness and atrophy can become a clinical problem. Decreased sexual desire is often described in menopause. It is difficult to determine if this is due to a hormonal cause or whether it is secondary to the fear of pain with sexual intercourse because of the vaginal dryness and loss of elasticity. The most common causes of loss of sexual desire are either anger at ones' partner, or medications such as antihypertensives that tend to interfere with the vascular response. These factors must be looked for when determining if the decreased sexual desire is really due to the menopause.

For most menopausal women, if there is an available partner who is able and willing to having intercourse, sexual activity is usually maintained at a fairly stable level in the women's post menopausal years.

Topical estrogen creams or slow release, vaginal estrogen rings may be used directly to improve vaginal dryness, and once that is improved, regular intercourse seems to maintain the elasticity and moistness of the vagina. Over the long run the most important influences are the strength of the relationship between a woman and her partner and the physical condition of each.

How do you diagnose menopause?

If a woman is above age 45 and has completely stopped menses over three months or more, and has had the sudden onset of hot flushes during that three month period, one can be fairly sure of the diagnosis of menopause. This scenario, however, seems to be more the exception than the rule. Since many women can have a four year period of menstrual irregularity prior to menopause and up to 10% of women may have hot flushes during that time, hot flushes alone are not enough to make the diagnosis of menopause.

Cessation of menstrual periods alone is also not enough to diagnose menopause. If a woman is considering taking long-term estrogen replacement therapy because of its benefits of preventing bone thinning (osteoporosis) and heart disease, it is important to document with more certainty that the ovaries have indeed stopped functioning. In this case a serum follicle stimulating hormone level (FSH) should be ordered. This is a blood test that is drawn and if it returns with an elevated level (usually greater an 30 IU/L) one can make the diagnosis of menopause. Actually in the perimenopausal age range, FSH levels can sometimes be greater than 30 IU/L but luteinizing hormone (LH) levels are still normal. LH also becomes elevated after menopause but in practice, relying on just an FSH blood level is usually the norm.

Is it useful to measure other hormone levels?

Estrogen decreases in menopause but there are causes of estrogen decrease other than menopause; therefore a low level of estrogen would not be as diagnostic of menopause as an FSH level. Testosterone is also decreased in menopause but again the levels are not able to be used as a firm diagnosis of ovarian failure because of other possible causes. In the perimenopausal time period, an estrogen level, specifically estradiol, can be helpful in the diagnosis along with the FSH. If the estrogen levels are still normal and the patient has just slightly elevated FSH levels then she may not be totally menopausal and not ready for full dose estrogen replacement therapy. On the other hand if the estrogen level is decreased, that is reason enough to declare menopause and to go ahead with treatment. By the time menopause can be diagnosed by seeing atrophic changes on the vulva and vagina exam, the diagnosis is usually well established by other means. Complete atrophy takes a while after the cessation of ovarian function in order to reach its maximum effect.

Does heart disease increase during menopause?

Since cardiovascular disease is the most frequent cause of death in the United States, it is important to know the effect of menopause on those diseases and whether or not estrogen replacement therapy helps to prevent those diseases. Atherosclerosis in major blood vessels is the primary mechanism which causes heart and vascular disease in both men and women. High diabetes, smoking and obesity are risk factors for atherosclerosis. Over the last several decades, however, there has been a significant decline in cardiovascular death rates in women in the United States.

Before menopause, most women lag behind men in the incidence of cardiovascular disease. They have about a 10 year advantage over men for heart disease and for heart attacks they have almost a 20 year advantage. It is not totally clear what the reasons for this are, but it may be due to the different high density cholesterol levels in women in their reproductive years.

After menopause, womens' incidence of heart disease rapidly begins catching up with men. The risk doubles and the lipids rise if women are not on estrogen replacement therapy. Most investigators think that the slightly higher levels of high density lipoprotein (good cholesterol) in premenopausal women is responsible for this lower incidence of heart problems. When estrogen replacement is given after the menopause, this higher level of high density lipoprotein returns and it may be through that mechanism that estrogen replacement therapy prevents coronary heart disease. In several large studies there was almost a 50% reduction in the relative risk of fatal cardiovascular disease in women who used estrogens compared to women who did not. This reduction was still in effect even after taking into account cigarette smoking, diabetes, and as well as their cholesterol levels. Estrogen protection actually may increase in patients who have higher cholesterol levels.

Cholesterol changes probably account for only 25% of the cardioprotective effect of estrogen. This effect on plasma lipids cannot fully explain the beneficial effects of estrogens upon cardiovascular disease. Direct effects of estrogens on the actual artery muscle wall also appear to contribute to the overall cardiovascular benefits.

Since heart disease is the most common cause of death in women, it is important to know how much of it can be prevented by taking estrogens after menopause when the ovaries stop producing their own estrogens. Some investigators have estimated that estrogen replacement adds at least three years of life on the average for women who use them. What is not known however, is if a woman with very low cholesterol values receives as much protective benefit from estrogens as a woman with high cholesterol levels. Perhaps the woman who has desirable estrogen levels on her own doesn't really benefit from hormonal replacement therapy.

In 1994 Speroff et al (1) reported that more than 30 published studies had looked at postmenopausal estrogen use and cardiovascular disease and only a handful of those studies failed to find evidence for a protective effect of estrogens. They felt that the literature of scientific studies were consistent on this subject and that without estrogen replacement therapy, menopause leads to a more rapid new occurrence of cardiovascular disease.

Does estrogen therapy cause hypertension?

Hypertension is not caused by estrogen replacement therapy even though menopausal women do become hypertensive at a higher rate than premenopausal women. Actually there may be a slight decrease in blood pressure in women taking estrogen replacement. Menopause itself may contribute to hypertension independent of the lack of estrogens. It is not clear at this time.

Does estrogen therapy cause blood clots?

As far as thrombosis such as blood clots to the lungs or thrombophlebitis, it does not appear that estrogen replacement therapy either causes this or protects against it. Menopause estrogen replacement is much lower in dose than that in the original birth control pills studies that suggested that blood clots were caused by synthetic estrogens.

How much of a problem is bone thinning (osteoporosis) in menopause?

The density of calcium in bones increases in the mid to late 20's and begins to decrease starting at about age 30. From there on out, both men and women lose bone density. The loss of bone accelerates after menopause and as much as 1 to 1.5 percent of total bone mass loss occurs each year after menopause for the next 10-15 years. Because women start off with lower bone mass than men, they are more susceptible to spontaneous fractures in later life when the bone has thinned to the point that it spontaneously breaks. The more overweight a woman is, the less likely she is to have osteoporosis. This is because the heavy weight causes the bones to be much denser and more like the bones of men in the earlier years and even with accelerated bone loss, there is much further to go before spontaneous fracture.

Hip fractures begin to occur in women approximately 10-15 years following menopause. By age 90 almost 20% of all white women will have developed hip fractures of which over 15% of those will cause death within three months of the fracture. Even survivors of hip fractures are severely disabled and may become permanent invalids.

Studies have shown that estrogen replacement after menopause is one of the most effective methods of preventing bone thinning. It seems to reduce the risk of vertebral fractures by 50%, and hip fractures by 30%. It not only reverses the loss but in some instances can cause the slow accumulation of new bone. The essence of estrogen replacement therapy is to make sure it is begun before significant amount of bone has already been lost. If bone loss has already taken place, estrogen replacement can only arrest further loss but not correct or thicken the bone to above spontaneous fracture level. Weight bearing physical activity for as little as a half hour, three days a week can increase the mineral content of bone in older women. This does not need to be severe exercise but can represent just walking or other forms of mild exercise.

What other factors contribute to osteoporosis?

Cigarette smoking and excessive alcohol intake are associated with an increased risk of osteoporosis. It is important to remember that there are also other medical diseases such a parathyroid disease, renal disease, thyroid disease and blood diseases that can produce osteoporosis. Medical therapy with corticosteroids is also a cause of osteoporosis.

A baseline measurement of bone density is recommended for all postmenopausal women. There is 50-100% increase in fracture risk for each standard deviation decline in bone mass. If a woman is running above normal for her age it may be less important than if she is below the norms for her age. If she is below the norms she will approach the spontaneous fracture risk level at a much younger age than normal. If women know they are at risk for osteoporosis based on a bone density measurement, quite often they are more likely to take estrogen replacement therapy, even in spite of the perceived risks.

Can estrogens prevent Alzheimer's disease?

There are several senile dementias of which Alzheimer's is one type. Some studies have found that postmenopausal estrogen replacement therapy lowers the risk of subsequent senile dementia of any type by about one-third or lower.

Should I consider hormone replacement therapy for menopause?

Replacement of estrogens and progestins after the menopause is not always without some side effects. Progestins are recommended to take along with estrogens if a woman has an intact uterus. This helps to prevent any cancer causing effect on the endometrium by estrogen alone. If progestin is added then this risk is reduced to the baseline for women not on hormone replacement therapy. Unfortunately, hormone replacement therapy can lead to some irregular bleeding which in itself may be a sign of cancer. This then has to be worked up to make sure an endometrial cancer is not present. Between the inconvenience of the symptoms and the concern and expense over diagnostic workups, many women become discouraged with hormone replacement therapy and choose to discontinue it. If a woman is not having hot flashes, all the other benefits of hormone replacement are fairly indirect and take many years to show their benefit. It is often difficult to trade short term occurrence of symptoms for these long term benefits.

Why do I feel bad when taking hormone replacement therapy?

The added progestin seems to add more side effects to hormone replacement therapy than just estrogen alone. Many women may note irritability, headaches or a general "not feeling well." Often the physician has to change to a different progestin to avoid these side effects.

Is there a risk of breast cancer if I take hormone replacement therapy?

The role of estrogens and progesterones in either causing, promoting or preventing breast cancer still remains controversial. Several studies from Europe have found that hormonal replacement therapy with estrogen plus progestins has been associated with an increased risk of breast cancer. (2,3,4). An early U.S. study suggested that adding progestin to estrogen therapy was protective against breast cancer (5) but among three U.S. case-control studies (6,7,8), two found an increased risk in association with combined estrogen/progestin therapy compared with no use of hormone replacement (6,8). The other study found no association. (7)

One large study of nurses in the U.S. very carefully examined whether the addition of progestins changed the risk of breast cancer in women using hormone replacement. (9) The study was extended in an original article reported on the web site of the New England Journal of Medicine. (www.nejm.org) Their data clearly indicated that the addition of progestin does not reduce the risk of breast cancer that is associated with estrogen use in postmenopausal women. They found a risk ratio of 1.4 which was a significant increase (over 1.0) of any hormone replacement causing breast cancer. It is important here to note that in any scientific study using risk ratios, many scientists believe that any risk increase less than 2.0 is unlikely to represent direct cause and effect. If it is a significant increase over 1.0, there still is cause for concern, however.

If estrogens cause breast cancer, one would expect a much higher incidence of breast cancer in pregnancy or shortly after because estrogens are extremely high at that time. The incidence of breast cancer in pregnancy is actually lower than expected. If estrogens worsen breast

cancer, one would expect that women who have been on estrogens just prior to being diagnosed with breast cancer would have more extensive disease at diagnosis or a worse survival. In fact there is no difference. All of these favorable findings in studies of women taking estrogens are possibly offset by laboratory studies in which estrogens are added to tissue cultures containing breast cancer cells. The estrogens stimulate those cells to grow in the laboratory. This is the main reason why estrogens and breast cancer is a controversial subject and why it is difficult to state with certainty that estrogens do or do not cause or promote breast cancer.

Most experts would agree that there is definitely not a increased risk of breast cancer within the first 5 years of hormone therapy replacement. Whether or not longer term use is associated with breast cancer remains a question but certainly a woman should consider it as a possibility. Women on estrogen replacement therapy should have mammograms as indicated in screening protocols.