

Menopause – A Hormone Balancing Act

Menopause is not a dis-ease. It is a natural transition that occurs when a woman's ovaries stop producing eggs. Women are not meant to be fertile for their entire lives so when a woman reaches her late forties or early fifties her body produces less estrogen and progesterone. When she has had no period for one year she is considered post-menopausal and no longer able to bear children. Surgical menopause occurs when a woman has had both of her ovaries removed.

Estrogen and Progesterone

Let's examine the menstrual cycle and the role of estrogen and progesterone in this monthly event. Estrogen and progesterone are hormones. Hormones are chemical messengers released from the glands of the endocrine system that affect the functioning of every cell in the body. The ovaries, testes, adrenals, thyroid, pituitary and hypothalamus are all part of this intricate, interconnected system. Because of the complex interrelationship between these glands when one gland is out of balance it can upset the balance of other glands.

Progesterone and estrogen, like all of the steroid hormones, are made from cholesterol. As a building block for our hormones, cholesterol is essential to our well being. It is not the enemy. When a patient has high cholesterol it is important to determine the cause of that high cholesterol. Hormone imbalance, toxicity, nutritional deficiencies and an underactive thyroid are some of the contributing factors to high cholesterol. Arbitrarily lowering cholesterol with statin drugs without examining these causes could be harmful.

The body produces three different estrogens: estradiol, estriol and estrone. In a woman's body estrogen is produced by the ovaries, adrenal glands and fat cells. The more fat cells a woman has the more estrogen she will produce. Estrogen is responsible for the growth and development of the female sex organs (breasts, uterus and ovaries) as she goes through puberty. Once she has reached menarche and has begun menstruating, estrogen causes the uterine lining, also known as the endometrium, to grow and thicken each month so that it is ready to receive a fertilized egg. To assist in the success of fertilization, estrogen promotes water retention and fat storage.

Once a month an egg is released from a follicle of either ovary and travels down the Fallopian tube hoping to be fertilized. The ruptured follicle has an important job in that it is needed to produce progesterone for the next two weeks in preparation for pregnancy. The progesterone from the follicle functions to maintain the uterine lining until implantation occurs. If the egg implants and pregnancy occurs the uterine lining takes over continued production of progesterone. If there is no implantation, the follicle stops producing progesterone and the uterine lining is shed during menstruation.

Progesterone has some other essential functions besides its role in pregnancy. It is important in new bone formation, increasing libido, normalizing blood clotting and regulating blood pressure as it is able

to function as a natural diuretic. It maintains the myelin sheath which insulates nerves, is involved in blood sugar regulation and it utilizes fat for energy. It is a natural anti-depressant. It can protect against breast cysts. It can help restore cell oxygen levels and proper zinc copper balance in the body and prevent breast and endometrial cancer. Progesterone helps counteract the negative effects of estrogen therefore; the body needs adequate tissue levels of this hormone for optimal health.

Progesterone is also produced by the ovaries. It is often referred to as an upstream hormone. This means that it is required to make all of the other downstream hormones including cortisol, aldosterone, the three estrogens and testosterone. Because of its place in the hormone cascade, progesterone can often get “used up” to make these downstream hormones and then it is not around to balance the effects of estrogen. This state of excessive or unopposed estrogen in the body is called estrogen dominance.

Estrogen Dominance

Estrogen dominant symptoms include: PMS, depression, mood swings, headaches (including migraines), blood clotting, increased risk of stroke and heart attack, decreased libido, impaired blood sugar regulation, imbalance of zinc and copper, namely, too much copper and too little zinc, reduced oxygen levels in all cells, and thyroid dysfunction.

Normal levels of estrogen and progesterone in a woman’s body help prevent excess or abnormal growth in tissues sensitive to the effects of estrogen. For example, without proper estrogen/progesterone balance (estrogen dominance) fibroids may grow in the uterus, cysts may grow in the breasts or ovaries and cancer of the uterus, breast or ovary may develop.

Having too much estrogen in the body is the result of many factors. These include consumption of processed foods such as white sugar and white flour as well as unhealthy fats, lack of exercise and exposure to environmental toxins. Many of these toxins are referred to as xeno-estrogens. Xeno = foreign or outside the body. These foreign substances bind very strongly to estrogen receptors in the body and therefore strongly mimic the effects of estrogen in the body.

We are exposed to numerous xeno-estrogens in our environment today which increase total body load of estrogen. Xeno-estrogens are found in plastics, phthalates, plasticizers (substances added to plastics to make them more flexible, transparent and durable), bisphenol A which lines beverage and food containers, BHA - butylated hydroxyanisole—a food preservative also used in certain medications, hormone injected meats, weed killer, pesticides, DDT and PCB’s – both of which have been banned from use in the USA, foaming agents in soaps and detergents, personal care products such as cosmetics, sunscreens, parabens in lotions, spermicides in condoms, birth control pills containing ethinyl estradiol, Teflon cookware, clothes, computer chips and PVC piping. Studies of the effects of xeno-estrogens in animals have revealed high levels of estrogen in females, low testosterone, low sperm counts and feminization in males and overall, decreased numbers of offspring.

The S.A.D. – Standard American Diet - laden with unhealthy fats and carbohydrates can literally double estrogen levels above normal. These processed foods are calorie rich and nutrient poor. They do not come from nature. They are manufactured. Whole grain bread and whole wheat pasta are processed foods. Most of what we eat is processed elevating estrogen levels and increasing fat storage. This means more fat cells to store the fat and then these fat cells produce more estrogen perpetuating a high estrogen- high fat cycle.

Estrogen levels have been found to be much lower in women who perform strenuous physical activity. Exercise plays an important role in how estrogen is metabolized in the body. Studies have shown that women with an increased risk for breast cancer had great improvement in their estrogen metabolism when they were placed on a moderate exercise regimen and calorie restriction. Ultimately, lean body mass means less body fat which means less estrogen is being produced from fat cells. Fewer fat cells mean less fat storage so the high estrogen high fat cycle is broken.

Effects of Early Menarche

At the turn of the twentieth century the average age of menarche was fourteen years of age. Today some females are starting to have their periods as early as eight years of age in large part due to diets of highly refined foods and exposure to foreign estrogens. It is also no coincidence that industrialized nations with much higher rates of exposure to xeno-estrogens and processed foods have higher rates of breast and endometrial cancer. If women are menstruating earlier and waiting longer to have children and then having fewer children and breast feeding them for much shorter periods of time their exposure to estrogen is much greater. This increased exposure is then compounded by the toxic soup of estrogen mimickers we live in and the food we are ingesting.

A woman has on average five hundred periods throughout her lifetime. The hormonal fluctuations that occur monthly ultimately allow for the survival of our species. It is clear that we need to clean up our diets and our environment to reduce the estrogen onslaught that is occurring and that may in the long run threaten our survival as human beings on earth. Excess estrogen is definitely adversely impacting our health.

Menopausal Symptoms and Hormone Imbalance

Excessive levels of estrogen can also impact how a woman goes through menopause. If a woman approaches menopause with twice as much estrogen in her body and inadequate progesterone to balance that estrogen not only is she likely to experience estrogen dominant symptoms she will also be more likely to experience the “traditional” symptoms of menopause namely, hot flashes, night sweats, flushing, sleep disturbances, vaginal dryness, urinary incontinence, palpitations, mood swings, memory issues and joint and muscle aches. Some menopausal women also develop frequent urinary or vaginal infections as a result of this hormonal imbalance.

Interestingly, women are often told that they need more estrogen when they go through menopause. When a woman in an industrialized nation goes through menopause ovarian production of estrogen falls by an estimated forty percent. With estrogen levels double normal in these women, despite this fall, there is still a lot of estrogen around to promote tissue growth, water retention and fat storage. Estrogen continues to be produced by the adrenal glands and fat cells to maintain those functions of estrogen not related to reproduction, namely bone formation, insulin balance, and fat and protein metabolism.

Progesterone is not produced when a woman stops ovulating as occurs in menopause. Some progesterone is produced by the adrenal glands but levels can actually fall much greater than estrogen levels when a woman goes through menopause. Clearly this scenario can greatly upset the delicate balance that needs to exist between progesterone and estrogen for optimal hormonal health. Hormone imbalance is responsible for poor sleep, low energy, diminished sexual desire and problems managing stress appropriately.

Stress, itself, is a major contributor to hormone imbalance. We place tremendous demands on our bodies - more than we were designed to handle without support. When the body is under physical or emotional stress its response is to produce stress hormones, one of which is cortisol. Over time this repeated stress taxes the adrenal glands and they fatigue. Because cortisol requires progesterone for its production, progesterone may be shunted toward production of cortisol resulting in less progesterone available to counteract the negative effects of estrogen. Estrogen dominance again results.

Treatment for Menopause

Over the years attempts have been made to address and treat the symptoms associated with menopause. In the early 1900's aging female nobility in China were given dried young female's urine to eat. Containing the metabolites of progesterone, estrogen and testosterone, the dried urine was found to help with menopausal symptoms. In the 1940's the pharmaceutical company Wyeth decided to produce a drug called Premarin, a conjugated estrogen made from pregnant mare's urine to help with menopausal symptoms. This drug was an effective therapy for many women; however, in the 1970's a causal relationship was found between estrogen and endometrial cancer. In response, Wyeth developed Provera - a synthetic progestin, not equal to progesterone in many of its effects except its ability to protect the uterus from unopposed estrogen. For thirty years these synthetic hormones were peddled to unsuspecting menopausal women as the only way to eliminate menopausal symptoms and prevent cancer, heart dis-ease and osteoporosis.

In the 1990's Wyeth partnered with the National Institute of Health, a government agency, to conduct a long term study of the effects of Premarin and Provera in postmenopausal women. The aim of the study was to prove that women needed hormone replacement therapy to protect them from cancer, heart attack, stroke and bone loss. This study was called the Women's Health Initiative and was conducted across the United States in multiple academic centers.

In 2002 the study was halted because data actually showed an increased incidence of heart attack, stroke and breast cancer in patients taking these hormones. Millions of women stopped taking these hormones after the NIH came out with a public statement declaring that hormones were harmful. Although Wyeth was not required to take Premarin and Provera off the market, low dose variations of the drugs continued to be prescribed for shorter duration to women experiencing menopausal symptoms. Were there any other available options to address these symptoms?

Bio-identical Hormone Replacement Therapy

Bio-identical hormone replacement therapy (BHRT) has been a treatment option for women since the 1930's. The hormones were initially delivered through intramuscular injection. BHRT was not supported by the drug industry because these hormones were derived from plants and as such could not be patented. Unfortunately, doctors get most of their information about drug therapies from drug companies so most practitioners have not learned about BHRT. Because BHRT is hormone therapy, much of the medical community assumes that bio-identical hormones, like synthetic hormones, are harmful. In 2004 Suzanne Somers introduced BHRT to the masses in her book "The Sexy Years." BHRT use has increased significantly in the US since then, though it has been used successfully for decades in Europe.

The term bio-identical is not a marketing scheme. These hormones have the exact chemical structure as the hormones which our bodies produce so they function well in the body. They are manufactured in laboratories from soy and yam oils but because they do not come directly from nature some might say they are not natural.

Bio-identical estradiol, progesterone and testosterone are FDA approved. Estriol, the weaker estrogen which is produced during pregnancy is not FDA approved. Because it is the estrogen which the body produces during pregnancy, a time when the fetus is most vulnerable to the effects of any exposures, it is felt by many to be a safer alternative to using estradiol, the most potent estrogen the body produces. Progesterone is the only one of these hormones which is available over the counter.

There are commercially available bio-identical hormones including the Vivelle patch, Climera and Estraderm delivered via the skin and oral Estrace. These hormones contain only estradiol, the most potent estrogen. Prometrium is oral progesterone and Androgel is testosterone applied topically.

The downside to these hormone products is the higher dosing. With compounded BHRT, the dosing is often ten to twenty times lower and is individualized based on each patient's salivary hormone levels and symptoms. There is no one size fits all approach. However, it is recommended to all hormone patients that they eat whole foods, move daily, eat every 2-3 hours and reduce stress and exposure to environmental toxins. Avoiding caffeine and alcohol can also help achieve healthier hormone balance in the body.

Bio-identical hormone replacement therapy is often the answer to many people's prayers when it comes to improving health and reducing or eliminating symptoms. If we know that it is our lifestyle choices that create hormone imbalance in the first place why can't we just start there? For some people this is a viable option but for many it is not. They are too tired, overwhelmed and stressed to do what is necessary. They know that they need to do. They just cannot do it. BHRT very often gives patients the energy, motivation and desire to take the steps required to improve their health. Balancing hormones can bring balance into our lives just as balancing our lives can bring our bodies into greater hormonal balance.

Dr. Deanna M. Cherrone is a board certified Internist who practices Functional Medicine at Natural Health & Healing, LLC located at 12 W. Main St. in Avon, CT. She can be reached at 860-677-4600 or via email at drcherrone@naturalhealthandhealing.net. See ad on page 55.