

## Clinical Signs and Other Indicators of Menopause, Part I

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With age comes a diminished capacity for cellular protein synthesis, a decline in immune function, an increase in fat mass, a loss of muscle mass and strength, and a decrease in mineral bone density. Age-related impairment or disability is associated and synonymous with weakness, impaired balance and mobility, and poor endurance. With advancing age, such impairment is known as physical frailty and includes falls, fractures, and other problems in performing activities of daily living. In short, the patient can suffer partial or complete loss of independence.

Traditionally, the aging process has been considered physiological and unavoidable, but in recent years, I have experienced an increasing number of patients who are unwilling to accept the grim stereotype of aging as a process of continual decline and loss. Today, many will not accept "growing old" in the traditional sense and are asking the right questions when it comes to delaying the aging process. These patients are seeking the right diet to decrease their abdominal fat mass<sup>1</sup> and visceral fat, which is common with old age; asking how to improve glucose metabolism; and requesting recommendations on the appropriate exercise program to increase physical performance.

Hormones are partly responsible for this change in attitude; a great number of my patients are taking them. In recent years, hormone replacement strategies have been developed, but many of their aspects remain controversial, and increasing hormone blood levels to those found in 30-year-olds has not yet been uniformly proven to be safe or beneficial. However, the preponderance of medical evidence suggests there is an overall benefit to hormone replacement therapies that may far outweigh any undiscovered risks, at least right now.

In more than a decade of private chiropractic health practice, I have noticed that the most dramatic and rapidly occurring change in women around the age of 50 is menopause. Since my profession is naturally drug- and surgery-free, a large population of my practice is women seeking answers to natural health care during this transitional period. The level of cycling estradiol (E2) production in women, which is high during the reproductive years, drops dramatically. Sometimes I even run into that woman in her 30s whose doctor may have experienced a knee-jerk reaction and commented that she was "far too young for menopause." In order that these women do not end up being misdiagnosed as suffering anything from stress to absolutely nothing - the "it's all in your head" diagnosis - I feel it is just as important that my patients know what tests to ask for and what those tests mean, rather than simply know how best to treat their condition.

Because hormone levels can and do fluctuate, I advise getting tested more than once, about a month apart. This is particularly important if a woman is still getting her period and/or has a few symptoms, as there is a chance that she is experiencing temporary menopause, a condition brought on through extreme periods of stress. I ask my patients to get a copy of their actual laboratory results for their personal records. The specific test I want to consider in women is the FSH blood measurement, because high levels can signal that a woman's body is entering into menopause. This is the key test to determine whether a woman is going into menopause. It is important to get tested

more than once, because a woman can revert to normal levels the next month. She also can end up with FSH levels that are well into the menopausal range, but still be experiencing periods. This may indeed signify the unfortunate fact that this woman may be in a premature menopause state.

Not long ago, the prevailing view was that menopause resulted from exhaustion of ovarian follicles. An alternative perspective is that age-related changes in the central nervous system and the hypothalamopituitary unit initiate the menopausal transition. The evidence that both the ovary and the brain are key players in menopause is now clear. Findings reported in the July 22, 2000 issue of *Neurology* suggest the link between hormones and brain development. Other research has shown that hormones, including estrogen, can influence both brain development and reproductive aging.<sup>2</sup>

In the presence of sex steroid hormones, a normal distribution of body fat exists, but with a decrease in those hormones, as occurs with aging, there is a tendency to increase central obesity, a major risk for cardiovascular disease, type 2 diabetes and certain cancers. In fact, hormone replacement therapy in postmenopausal women can reduce the degree of central obesity.<sup>3</sup> In addition to insufficient exercise and overeating, hormonal/metabolic changes that occur with aging may attribute to the increase in abdominal fat that generally occurs during middle and old age. One such change is the decline in the production of the adrenal hormone dehydroepiandrosterone (DHEA).

DHEA is produced in the brain and adrenal cortex. It is one of the most abundant hormones in the body and is a precursor to testosterone, estrogen and progesterone. Levels appear to be very low in cases of obesity, diabetes, immune deficiency, high blood pressure and heart disease. Insulin decreases DHEA, which is one reason why hyperinsulinemia increases vascular disease. Administration of DHEA to rats and mice reduces visceral fat accumulation in both genetic and diet-induced obesity. DHEA demonstration has been shown to reduce accumulation of abdominal visceral fat and protect against insulin resistance in laboratory animals, but it is not known whether DHEA decreases abdominal obesity in humans, according to the hypothesis of one recent research study. This six-month study, the results of which were published in the *Journal of the American Medical Association*, showed that 50 mg of DHEA, administered to human subjects, reduced visceral and subcutaneous fat, as measured by magnetic resonance imaging and glucose and insulin responses to an oral glucose tolerance test.<sup>4</sup>

In *Medical Crossfire*, John B. Morley comments, "There is now evidence that older males have a menopausal syndrome that includes a decline in libido. Occasional hot flashes, night sweats, impaired cognition, increased fatigue, decline in muscle mass, and a decline in bone mineral density. It would suggest that aging is associated with either a decrease in testosterone receptor binding or post receptor activation. Both of these situations have been commonly shown to occur with other hormones with aging. Regardless, this would not invalidate the concept of a male menopause."<sup>5</sup>

Alzheimer's disease (AD) is characterized by the age-related deposition of beta-amyloid peptide aggregates in vulnerable brain regions. Studies have reported that estrogen replacement protects against the development of AD in postmenopausal women.<sup>6</sup>

The mechanisms underlying the improved quality of life observed in patients on hormone replacement therapy (including natural hormone replacement) are not yet well-understood. However, several hypotheses have been suggested. One hypothesis proposes that the main cause of improvement is the increase in exercise capacity that occurs in adults, largely as an increase in muscle mass and strength. Another suggests that an important role is played by changes in brain

biochemistry.<sup>7</sup>

### *References*

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