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Symptoms of Menopause

Shaikh Zinnat Ara Nasreen

Abstract

Menopause occurs when a woman stops menstruation permanently at the end of the reproductive life. It usually begins around the ages of 45 and 53, median age is 51. Many women experience menstrual irregularities soon before it stops. The common symptoms of menopause are that women (75%) experience vasomotor symptoms, including hot flashes, night sweats, and flushing. Headache, palpitation, and tiredness are common. Genitourinary syndrome of menopause (GSM) includes dryness of the vagina or vulvovaginal atrophy which causes sore, itching, and burning in the vagina and severe dyspareunia. Also it includes urgency, frequency, nocturia, repeated UTI, and sexual dysfunction. Mood changes like irritability, lack of concentration, loneliness, forgetfulness, insomnia, anxiety, and depression bother many women. Joint and muscle pain, backache, osteoporosis, and fracture are common. Midsection weight gain, hirsutism, hair fall, and loss of elasticity of skin are distressing symptoms. Diminished cognitive capacity, memory loss, and dementia are associated with aging, but women with premature ovarian insufficiency may experience such condition.

Keywords: vasomotor symptoms, hot flashes, VVA, GSM, osteoporosis, mood changes

1. Introduction to menopause

Menopause is a normal physiological and natural event. The WHO defined menopause as permanent cessation of menstruation due to loss of ovarian follicular activities at the end of reproductive life. Menopause before the age of 40 years is considered as premature menopause or premature ovarian insufficiency.

The average age of menopause is 51 years, which is influenced by both genetic and environmental factors. Due to increased life expectancy of women, postmenopausal years cover more than one third of the total female life span.

Though natural events of estrogen deficiency of menopause herald a variety of potential problems that can affect the quality of life, specific concerns include subjective symptoms such as vasomotor instability, i.e., hot flushes, psychological and psychomotor disorders, menstrual irregularities, vaginal dryness, genitourinary dysfunction, and osteoporosis which have implications for long-term health [1–6].

So doctors and menopausal women both are interested in and deserve an understanding of the symptoms and the basis for therapeutic recommendation aimed at relieving symptoms and reducing subsequent health risks.

2. Definition

Natural menopause is recognized to have occurred after 12 consecutive months of amenorrhea, for which there is no other obvious pathological or physiological cause. Menopause occurs with the final menstrual period, which is known with certainty only in retrospect a year or more after the event. An adequate independent biological marker for the event does not exist.

The term “perimenopause” should include the time immediately prior to the menopause (when the endocrinological, biological, and clinical features approaching menopause commence) and the first year after menopause.

The term “menopausal transition” should be reserved for the time before the final menstrual period when variability in the menstrual cycle is usually increased. This term can be used synonymously with “premenopausal.”

Relationship between different time periods surrounding the menopause (modified from the WHO 96238) is shown in the table below.

FMP							
Stages	−5 to −4	−3	−2	−T''	+1	+2	
Terminology	Reproductive		Menopausal transition	Post	Menopause		
	Early peak	Late	Early	Late	Early late		
Perimenopause							
Duration of stage variable			Variable		1 year	4 years demise	Until
Menstrual cycles	Variable to regular	Regular	Variable cycle length > 7 days different from normal	>2 skipped cycles and an interval of amenorrhea	12 months amenorrhea	None	
Endocrine	Normal FSH	↑ FSH	↑ FSH		FSH		
Stages of reproductive aging workshop (STRAW) system.							

3. Symptoms of menopause

3.1 Menstrual irregularities

Menstrual irregularities are a common complaint during menopause transition. Infrequent **ovulation** and anovulation lead to changes in the length of proliferative phase, and in the absence of progesterone, decline of estrogen leads to heavier and irregular menstruation. In some women scanty periods with long cycles may be the main symptom. The changes of bleeding pattern due to hormonal fluctuation usually occurs during perimenopause. The analysuisreported median age at inception of perimenopause is 47.5 years and smokers have not only early but a shorter perimenopause [2]. However, postcoital bleeding, prolonged bleeding, and post-menopausal bleeding require further investigation.

3.2 Vasomotor symptoms

Vasomotor symptoms are the main bothering and common symptoms in the early menopause. They include hot flushes, night sweats, and palpitation and are termed vaso-motor symptoms because of vascular reactivity with initial prominent vasodilatation.

Hot flushes are transient periods of intense heat in the upper part of the body usually accompanied by sweating. Its exact mechanism is not known, but is believed to be due to narrowing of thermoregulatory zone of the hypothalamus with decline of estrogen level. Hot flushes and night sweats are experienced by about 40% in early transition, increasing to 60–80% in late menopausal women [3]. About 25% can be severe to cause significant distress. Sleep disturbances caused by hot flushes and sweating can lead to lethargy, poor physical functioning, and depressed mood. In about 25% of women, hot flushes may continue for over 5 years; in a small percentage of women, it may continue up to 10 years or more. In surgical menopause, vasomotor symptoms are abrupt and severe. Low body weight, lack of exercise, and smoking are risk factors for hot flushes.

Severity, frequency, and duration of hot flushes vary with menopausal status, ethnicity, age, cultural factors, and woman's perception of menopause. In many western countries and Australia, 60–80% of women experience hot flushes, while the prevalence is 20–30% in Chinese and Japanese women. In Asia 40–60% of women have hot flushes. Hot flushes have a negative impact on quality of life as well as an association with adverse morbid conditions like cardiovascular disease, osteoporosis, fragility fractures, and diabetes [4].

3.3 Mood disorders

Mood swings, anxiety, and depression are some of the psychological symptoms during menopausal change. Nearly half of women on menopause transition can get easily irritated. They become less patient with the members of the family, friends, and colleagues and often feel tired and sad. With emotional changes, they can appear nervous, stressful, and sometimes aggressive. Mood swings are due to changes in serotonin activity following estrogen decline but may also be caused by other menopausal symptoms as hot flushes and night sweats.

Anxiety in the form of nervousness, worry, or panic attacks may occur during perimenopause. Hormonal changes, vasomotor symptoms, and midlife stresses contribute to anxiety during this period. Panic disorders are associated with negative life events, impairment of activity, or physical illnesses.

Depression is more common in the menopause transition and early postmenopause than premenopausal. A number of reports indicate that there is a significant increased risk of new-onset depression in women during menopause [5]. Those who had previous episodes of depression are at a higher risk. Depression is associated with hormonal changes during this period, stressful life events, poor sleep, hot flushes, employment status, ethnicity, and cultural attitudes.

Insomnia may be seen in some women, and they are more likely to have anxiety, stress, and depressive disorders. Sleep disorders are associated with menopause transition and also related to hot flushes, other physical health problems, psychosocial problems, and medication. Sleep apnea too may occur during this period, and obese women are at a higher risk.

3.4 Genitourinary symptoms

Estrogen receptors are present abundantly in the vagina, vestibule, and trigone area of the bladder. With estrogen deficiency after menopause, many anatomical and physiological changes occur in this area, which results in GSM. Genitourinary syndrome of menopause (GSM) is the new term for vulvovaginal atrophy (VVA). In 2012, the International Society for the study of Women's Sexual Health and the North American Menopause Society introduced genitourinary syndrome of menopause as a more accurate, comprehensive, and publicly acceptable term to replace atrophy or atrophic vaginitis. The Society considered "atrophy" to be a negative

term, which suggests “wasting away” and that vaginitis imply an infective or inflammatory condition. Neither the old terms encompass the urological symptoms. Furthermore, “vagina” was not regarded as a socially acceptable enough word to use in public discourse or the media (Maturitas 2014; 79–349).

Due to menopause, the withdrawal of estrogen causes dryness of the vagina, loss of elasticity and flexibility of the vagina, and damage of the vaginal epithelium. So women complain of the following:

- Vaginal dryness or lack of lubrication

- Dyspareunia

- Postcoital soreness and bleeding (Maturitas 2014; 79–349)

- Vulval/vaginal itching, soreness, burning, and discomfort

- Urinary frequency, urgency, nocturia, and recurrent UTIs

- Urge incontinence

On examination the vagina seems short and narrow, with the absence of rouge, and appears pale. About 20–30% of postmenopausal women have urgency and have urinary incontinence. With genital prolapse, women may suffer from recurrent urinary tract infections.

This dryness of the vagina causes decreased lubrication and sexual dysfunction [6]. The single entity of dyspareunia affects all that domains of sexual function. If not treated timely, women complain severe sexual dysfunction, which totally disrupt the conjugal life.

3.5 Osteoporosis

Accelerated osteoclastic activity and reduced osteoblastic activity and calcitonin activity due to reduced estrogen and aging process lead to osteoporosis. Osteoporosis is a systemic skeletal disease characterized by low bone mass and micro architectural deterioration of bone tissue leading to enhanced bone fragility and a consequent increase in fracture risk. Osteoporotic fracture burden is increasing worldwide. About half of women 50 and older will have an osteoporosis-related fracture in their lifetime. During the menopausal transition period, the average reduction in bone mass density (BMD) is about 10%. Approximately half of women are losing bone even more rapidly, perhaps as much as 10–20% in those 5–6 years around menopause.

Women could be asymptomatic, or they might have persistent unexplained back pain, recurrent fractures, fracture from minimal trauma, loss of height, and spinal deformities. The incidence of fractures increases, particularly of the distal radius, vertebral body, and upper femur beyond menopause. Wedge compression fractures of the spine lead to backache. Women complaining chronic back pain, bone pain, joint pain, and muscle pain must consult a doctor to exclude osteoporosis. Maintaining optimum body weight and avoiding sedentary work, bone toxic agents, too much alcohol, and smoking are the key strategies to prevent osteoporosis.

3.6 Cardiovascular disease

With the loss of cardioprotective action of estrogen by its action on lipids, endothelial function, and anti-inflammatory effect, menopausal women are more liable to get ischemic heart disease. Symptoms of coronary heart disease (CHD) in women are somewhat different from typical male type of angina, which are usually brought by exertion and relieved by rest. Women with myocardial infarction have atypical symptoms like fatigue, shortness of breath, and atypical chest pain. Many may have nonobstructive coronary heart disease (CHD); angiogram may not show typical obstruction in the coronary arteries. CHD is the commonest cause of death among postmenopausal women; the ratio of CHD in men to women becomes 1:1

after menopause. The SWAN study suggested that the protective effects of HDL might decrease during menopause [7].

3.7 Obesity

Menopause along with aging process is associated with an increased risk of obesity and a shift to an abdominal fat distribution with associated increase in health risks. Changes in body composition at menopause may be caused by the decrease in circulating estrogen. For fat distribution shifts, the relative increase in the androgen-estrogen ratio is likely to be important. Large majority of these women have an increased body mass index and waist circumference. Midsection fat distribution is pronounced during menopause and beyond. Women gaining weight especially with increased abdominal girth are prone to develop metabolic syndrome and cardiovascular disease.

But weight gain during midlife and beyond is just not due to menopausal status [8]. So women must try to maintain the optimum body weight.

3.8 Skin changes

Dry skin and wrinkling are due to the loss of subcutaneous fat and changes in composition of connective tissue. Dry hair and hair loss and increased facial hair are caused by reduction in estrogen and relative increase in male hormones. Skin becomes less elastic and wrinkling appears. Nails become brittle and nail growth becomes slow.

3.9 Joints

Osteoarthritis is commoner in females after menopause, and many epidemiological and clinical studies indicate estrogen deficiency as one of the etiological factors in addition to familial tendency, obesity, and aging. In menopausal women, the knees and hands are mostly affected.

3.10 Sarcopenia

Menopausal transition is associated with accelerated loss of fat-free mass, a decline in resting metabolic rate, and increased central body fatness. The causes of sarcopenia or loss of muscle mass are due to hormonal changes at menopause, low levels of physical activity, reduced protein intake, and increased oxidative stress.

3.11 Eyes

Postmenopausal women are at a higher risk of developing age-related macular degeneration, and association with estrogen deficiency has been suggested.

3.12 Teeth

In the menopausal woman, osteoporosis may lead to loss of the alveolar bone of the jaws, resulting in periodontal disease, loose teeth, and tooth loss. Estrogen therapy has been shown to increase the alveolar bone mass.

3.13 Memory loss

As estrogen affects cognitive function and neurotransmitters, memory loss has been noted at menopause, especially episodic memory and verbal fluency. Estrogen

therapy at menopause, whether it reduces the risk of dementia and mild cognitive impairment, is a matter of debate. Women complain of bothersome memory symptoms, forgetfulness, and difficulties with word retrieval and brain fog [9].

3.14 Alzheimer disease

Alzheimer's disease (AD) is more common in postmenopausal women than in men of the same age. It is accompanied by progressive cognitive impairment and reduces the quality of life of the woman. These women have memory loss and confusion and are unable to recognize family members and friends. Often they have repetitive statements and movements and may have difficulty in getting up from a chair. Aging and other factors along with menopause are responsible, so menopause is not the direct cause of AD.

4. Key points

- The diverse symptoms associated with menopause are mainly caused by estrogen deficiency.
- Manifestations are seen in different body systems.
- Problems such as vasomotor symptoms, menstrual irregularities, joint pain, sarcopenia osteoporosis, and genitourinary disorders are troublesome and common.
- Pathologies such as osteoporosis, obesity, coronary heart disease, mood disorders, and memory problems have significant morbidity and mortality.
- Proper identification and timely optimum treatment may prevent the long-term health risks and ameliorate the symptoms of menopause and improve the quality of women's life.


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