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CONCEPT AND MANAGEMENT OF MENOPAUSE: A COMPREHENSIVE REVIEW OF UNANI MEDICINE

KEY WORDS: Sin-e-Iyas, Menopause, Unani Medicine, Mizaj, Taqviyat-e-Aza

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ABSTRACT

Menopause, referred to in Unani medicine as Sin-e-Iyas, represents the permanent cessation of menstruation (**Ihtibas-e-Tams**) due to the natural decline in ovarian function. While contemporary medicine focuses on the end of the estrogenic phase, the Unani system views this transition as a systemic shift in the body's Mizaj (temperament) from a state of reproductive warmth and moisture to a geriatric state of coldness and dryness (**Barid-Yabis**). Temperament of this age group is inclined more towards Barid Yabis (cold dry). Alteration of temperament of body is one of the fundamental factors which make body to stop physiological cyclical bleeding process accompanied with stressful symptoms. According to Unani principles, the cessation of menses leads to the accumulation of Fazlaat (metabolic waste) that was previously expelled through monthly cycles. This "Humoral Plethora" or the dominance of Sauda (Black Bile) often triggers the characteristic symptoms of this phase, including Ghalyan-e-Dam (hot flashes), Malikhuliya (melancholy), and Waja-ul-Mafasil (joint pain). Menopause is a natural phase of life that requires a recalibration of the body's internal environment. The Unani system provides a comprehensive framework for managing this transition by focusing on humoral balance and the strengthening of vital organs (Taqviyat-e-Aza), offering a viable alternative or complement to conventional hormone replacement therapies.

INTRODUCTION:

Menopause is the permanent end of menstruation, marking the conclusion of a woman's reproductive phase due to the loss of ovarian follicular function. It is defined by the occurrence of the final menstrual period. In Unani medicine (Tibb-e-Unani), menopause is viewed through the lens of the Four Humors (Dam, Balgham, Safra, and Sauda) and the Mizaj (Temperament). It is a period where the body's innate heat begins to decline, leading to a systemic shift from a reproductive state to a geriatric state. Menopause is acknowledged as the permanent cessation of menses for one year and is physiologically correlated with the decline in oestrogen secretion resulting from the loss of follicular function. It is the transition phase of female which affects reproductive and sexual life. Most commonly females attained menopause after the age of 45 years or more. A clinical diagnosis of menopause is confirmed after twelve consecutive months of amenorrhea (absence of menstruation) with no other underlying health conditions. Therefore, menopause can only be confirmed retrospectively. Premenopause refers to the time before menopause.

In Unani literature, menopause is referred to as Sin-e-Iyas. This term is derived from "Iyas," meaning despair or hopelessness, specifically referring to the end of the reproductive capability. It marks the transition from Sin-e-Kahal (the age of maturity, roughly 40-60 years) to Sin-e-Sheikhukhat (old age). Physiologically, it is the permanent Ihtibas-e-Tams (stoppage of menstruation). Unani scholars, including Ibn Sina (Avicenna) and Zakariya Razi, noted that this typically occurs between the ages of 45 and 55, depending on the individual's Mizaj, climate, and lifestyle.

The core of Unani pathology is the balance of humors. Menopause is characterized by two major shifts:

1) The Loss of Hararat-e-Ghariziya (Innate Heat)

Every human is born with a fixed amount of "Innate Heat" that fuels metabolic processes. As a woman ages, this heat gradually diminishes. When the heat becomes insufficient to "cook" or process the blood into menstrual fluid, the menses stop. This results in a shift toward a Cold and Dry (Barid-Yabis) or Cold and Moist (Barid-Ratab) temperament

2) Accumulation of Fazlaat (Waste Products)

Menstruation is considered a "natural evacuation" (Tanqiya) in Unani medicine. It is a way for the female body to rid itself of excess humors and toxins. When this cycle stops, these waste products (Fazlaat) may stay in the blood. If the Quwat-e-Mudabbira-e-Badan (the body's self-healing power) is strong, it redirects these wastes; if weak, it leads to symptoms of "Humoral Plethora" (Imtila).

ENDOCRINOLOGY AND PHYSIOLOGY OF POSTMENOPAUSE:

Several years before menopause, as the ovarian follicles deplete, they also become resistant to pituitary gonadotropins. This impairs effective folliculogenesis and reduces estradiol production. Serum estradiol levels significantly decline from 50-300 pg/mL to 10-20 pg/mL after menopause. This reduction weakens the negative feedback on the hypothalamic-pituitary axis, leading to an increase in FSH levels, which is further triggered by a decrease in inhibin. Inhibin, a peptide produced by granulosa cells of the ovarian follicle declines contributing to higher FSH. Subsequently, there is an increase in LH levels.

Disturbed formation of follicle at this time can result in anovulation, oligo-ovulation, premature corpus luteum formation, or corpus luteal insufficiency. Persistent low estrogen levels may even lead to endometrial hyperplasia and menstrual irregularities before menopause.

The average cycle length shortens significantly due to a reduction in the follicular phase, while the luteal phase remains constant.

Estrogen

After menopause, estrone becomes the primary form of estrogen, while estradiol is present in much smaller quantities. The serum concentration of estrone (30-70 pg/mL) exceeds that of estradiol (10-20 pg/mL). Estrone is mainly produced through the conversion (aromatization) of androgens, primarily from the adrenal glands, with a smaller contribution from the ovaries. This conversion takes place in muscle and fat tissues. Estradiol is produced in small amounts

through the peripheral conversion of estrone and androgens. While estrone is biologically weaker than estradiol, it is only about one-tenth as potent. As time passes, the supply of estrogen precursors diminishes, leading to a significant reduction in estrogen levels and trophic hormones about 5-10 years after menopause. At this point, a woman enters true menopause.

Androgens

After menopause, the ovarian stromal cells continue to produce androgens due to an increase in LH levels. The main androgens produced are androstenedione and testosterone. Although the ovaries release more androgens, their peripheral levels are lower because androgens are converted into estrone in fat tissue. This results in a decreased estrogen to androgen ratio, contributing to facial hair growth and changes in voice pitch.

Obese individuals, who convert more androgens into estrone, are less likely to experience symptoms of estrogen deficiency and osteoporosis. However, they are at an increased risk of endometrial hyperplasia and endometrial cancer.

Progesterone

Small amounts of progesterone are likely secreted by the adrenal glands.

Gonadotropins

FSH and LH levels rise due to the loss of negative feedback from estradiol and inhibin or because the pituitary becomes more sensitive to GnRH. FSH levels may increase 10-20 times, while LH levels may rise about threefold. GnRH pulse frequency and amplitude also increase. During menopause, prolactin and inhibin levels decrease, and the drop in inhibin leads to higher FSH levels from the pituitary. Over time, the levels of GnRH, LH, and estrogens all decline due to physiological aging.

There is a 50% reduction in androgen production and a 66% reduction in estrogen at menopause. The estrogen level may remain low at 10-20 pg/mL. Most estrogen after menopause is estrone (E₁), derived from the peripheral conversion of androstenedione secreted by the ovaries, with levels between 30 and 70 pg/mL. The ovary also produces a small amount of testosterone, which can cause mild hirsutism. FSH appears in high concentrations in the urine (more than 40 IU/L). The estradiol-to-estrone (E₂/E₁) ratio, which is over 1 in the premenopausal period, drops below 1 after menopause, leading to an estrogen deficiency. Estrogen levels over 40 pg/mL are beneficial for bone and cardiovascular health, while levels below 20 pg/mL may increase the risk of osteoporosis and heart disease. Low growth hormone levels can lead to ovarian failure.

Hormone Levels In Postmenopause :

Estradiole	5-25 pg\ml
Oestron	20-70 pg\ml – more in obese women
FSH	>40mIU\ml
Androgen	0.3-1.0 ng\mL
Testosterone	0.1-0.5 ng\mL
LH	50-100 mU\mL
Androstenedione	800 pg\ml
Growth hormone	Low
Inhibin B	
Anti-müllerian hormone	

Menstrual Changes:

There are three primary ways in which menstruation may cease during menopause:

1. Sudden cessation of periods.
2. Gradual reduction in menstrual blood flow until periods stop.

3. Gradual increase in the intervals between periods until they cease for at least a year.

Any bleeding that occurs after a six-month gap is considered postmenopausal bleeding and should be thoroughly investigated. Abnormal bleeding, such as menorrhagia or irregular heavy bleeding during the perimenopausal phase, requires investigation for possible malignancies of the genital tract.

Clinical Features :

Hot Flashes: Vasomotor Symptoms (Ghalyan-e-Dam)

Hot flashes are described as a temporary "boiling of the blood." Because the body can no longer expel heat through menstruation, the Hararat (heat) seeks an alternative exit, causing sudden sweating and flushing.

Around 60-70% of women experience menopause without significant problems, while the rest may require guidance and treatment. The most common and noticeable symptom of menopause is hot flashes, experienced by about 85% of women. These are episodes of vasodilation, usually affecting the face and neck, lasting 2-5 minutes and followed by intense sweating. Hot flashes are more severe at night and can disrupt sleep. Some women may experience these flashes with a headache, palpitations, and anginal pain. Mental symptoms like irritability, depression, and poor concentration are also common due to sleep disturbances. Over 1-2 years, the frequency and severity of hot flashes typically decrease. These symptoms are caused by noradrenaline affecting the thermoregulatory system. Estrogen deficiency reduces hypothalamic endorphins, leading to more norepinephrine and serotonin release, which disrupts the body's heat regulation.

Other conditions that may cause similar symptoms include thyroid disorders, epilepsy, pheochromocytoma, carcinoid syndrome, autoimmune disorders, mast cell disorders, insulinoma, pancreatic tumors, and leukemia. Hot flashes tend to be more severe in surgical menopause compared to natural menopause.

Libido:

Some women may experience an increase in sexual desire, especially if they are relieved from concerns about menstruation or pregnancy. However, approximately 15% of women report a decrease in libido after menopause, with some also experiencing difficulty reaching orgasm or becoming aroused.

Other Late-Onset Symptoms: These can include:

Urinary Issues: Dysuria, stress incontinence, urgency, and recurrent infections (urethral syndrome).

Genital Issues:

Fecal incontinence.
Thyroid dysfunction.

Urinary Tract Issues:

Estrogen deficiency can lead to urethral caruncle, dysuria (with or without infection), urge and stress incontinence, and poor tone of the internal urinary sphincter. These urinary symptoms are often grouped together as "urethral syndrome."

Genital Changes:

The atrophic vagina causes reduced secretion, leading to vaginal dryness and dyspareunia. Loss of libido contributes to sexual dysfunction, and rare cases of senile vaginitis can cause vaginal bleeding. Prolapse of the genital tract and urinary and fecal incontinence are commonly seen in menopausal women.

Neurological Symptoms:

Symptoms such as depression, memory loss, irritability, poor

concentration, and fatigue are common.

Late Complications Of Menopause:

Chronic estrogen deficiency after menopause can lead to various conditions, including:

- Arthritis, osteoporosis, fractures, and back pain.
- Cardiovascular issues like ischemic heart disease, myocardial infarction, atherosclerosis, and hypertension.
- Stroke.
- Skin changes.
- Alzheimer's disease.
- Colorectal cancer.
- Tooth decay.
- Genital prolapse and incontinence.
- Cataracts, glaucoma, and macular degeneration.

Cardiovascular Disease:

Estrogen helps maintain high levels of HDL (good cholesterol) and lower levels of LDL (bad cholesterol) and triglycerides. Estrogen deficiency increases the risk of atherosclerosis, ischemic heart disease, and myocardial infarction. Women with obesity, hypertension, and a history of thromboembolic events are at higher risk of cardiovascular issues.

Stroke:

The risk of stroke increases for women during menopause.

Skin:

The reduction in collagen due to estrogen deficiency causes the skin to wrinkle. While estrogen cream may temporarily help with skin changes, it may lead to thinning skin if used for extended periods.

Alzheimer's Disease:

Estrogen deficiency has been linked to the onset of Alzheimer's disease, and hormone replacement therapy (HRT) may help prevent or delay its development. However, it is most effective if started in the perimenopausal phase or shortly after menopause.

Endocrine System Changes:

Mild virilization, such as hirsutism (excessive hair growth), is often due to adrenal changes. Obesity, particularly fat deposition around the hips, is also more common. Some women may experience hypothyroidism with symptoms like a low basal metabolic rate (BMR), high cholesterol, dry skin, brittle hair, and difficulty concentrating.

Obesity And Related Disorders

The growth of adipocytes and the pattern of body fat distribution are strongly influenced by sex hormones. Testosterone and oestrogens affect adipocyte physiology in different ways, but the exact role of oestrogens in the development of metabolic disorders during menopause remains debated. A major factor contributing to the increased risk of cardiovascular disease in postmenopausal women is the decline in oestrogen production, which disrupts lipid metabolism and promotes the accumulation of abdominal fat. Sex steroids are essential for regulating energy use in adipocytes and influence the distribution of fat stores in a sex-specific manner [7]. In humans, the levels of sex hormones play a crucial role in determining fat distribution. Men generally have less total body fat than women but tend to have more visceral (central) fat. In contrast, women typically have a higher overall body fat percentage, primarily stored in the hips, thighs, and subcutaneous regions. When oestrogen levels are high-either naturally or through estradiol supplementation-women tend to accumulate fat in the lower body. However, after menopause, when oestrogen levels drop and no replacement therapy is used, women experience muscle loss and an increase in abdominal fat, which raises their risk of cardiovascular disease. Postmenopause paper

Years after menopause, some women may develop senile pyometra due to cervical stenosis, requiring drainage through cervical dilation under general anaesthesia.

Premature Menopause:

Premature menopause refers to ovarian failure occurring significantly earlier than the average menopausal age, defined as secondary amenorrhea for at least 3 months, with elevated FSH levels, high FSH/LH ratio, and low estrogen (E2) in women under 40 years old. The incidence is approximately 1%, with higher rates before age 30.

Causes of premature menopause include:

1. Genetic disorders, such as chromosomal abnormalities, which account for 10-20% of cases.
2. Autoimmune diseases, such as thyroid dysfunction and Addison's disease.
3. Tuberculosis affecting the ovaries.
4. Smoking, which accelerates menopause.
5. Radiation or chemotherapy, which may cause temporary ovarian suppression.
6. Ovarian failure following hysterectomy due to blocked ovarian vessels.
7. Prolonged GnRH therapy causing ovarian suppression.
8. Enzyme defects like 17 alpha hydroxylase deficiency.
9. Exhaustion of ovarian follicles due to multiple ovulation induction in infertility treatments.

Clinical Features Of Premature Menopause:

Hot flashes and sweating in 75% of cases, often more severe than natural menopause.

Decreased libido in 10-20% of cases.

Less frequent complaints of vaginal dryness and urinary symptoms.

Late Menopause:

Late menopause is defined as menstruation continuing beyond age 52, often seen in women with fibroids or endometrial cancer. It is typically a constitutional condition, but if menopause occurs after age 52, an endometrial biopsy may be needed to rule out pathology. Benefits of late menopause include:

- Delayed aging and a better quality of life
- Cardioprotective effects, with delayed onset of osteoporosis.

DIAGNOSIS OF MENOPAUSE

1. A continuous absence of menstruation for 12 consecutive months during the climacteric phase.
2. Onset of menopausal symptoms such as "hot flashes" and "night sweats."
3. Vaginal cytology revealing a maturation index of at least 10/85/5, indicating low estrogen levels.
4. Serum estradiol level: <20 pg/mL.
5. Serum levels of FSH and LH: >40 mIU/mL (three measurements taken at weekly intervals are needed).

Principles Of Management (Usul-e-Ilaj)

The Unani approach is holistic, focusing on three primary goals:

1. Tadeel-e-Mizaj: Correcting the cold/dry temperament back toward a balanced state.
2. Tanqiya-e-Badan: Assisting the body in evacuating the toxins that menses used to remove.
3. Taqviyat-e-Aaza: Strengthening the "Raees" (Vital) organs-the Heart, Brain, and Liver.

Ilaj-bil-Ghiza (Dietary Management)

Diet is the first line of defense. Since the body is becoming cold and dry, the diet should be Har-Ratab (Hot and Moist).

Recommended Foods: Mutton, eggs, milk, clarified butter

Pyometra:

(Ghee), almonds, figs, and grapes. These provide the necessary "moisture" to protect the organs.

Prohibited Foods: Excessive use of "Sauda-producing" foods like beef, eggplant, lentils, and highly processed or sour foods (vinegar, pickles), which increase dryness and irritability.

Ilaj-bi-Dawa (Herbal Pharmacotherapy)

It includes correction of Su' Mizaj and elimination of excessive morbid Khilt. For the purpose of correction of Su' Mizaj Maddi, Munjiz and Mus'hil Sauda drugs are given to patients. Nuzj (decoction) is the process by which Akhlate Raddiya (morbid humours) is made capable of evacuation from the body. Mus'hilat (purgatives) are the drugs that evacuate Akhlate Raddiya from the body given when Nuzj has been apparently completed. After giving Munzij and Mus'hil drugs Muqawiyate Reham (uterine tonics) drugs are given to restore the Quwat (power) of uterus Unani medicine utilizes "Mudir-e-Haiz" (Emmenagogues) in the perimenopausal stage and "Muqawwi" (Tonics) in the postmenopausal stage.

Key Single Drugs (Mufridat)

1. Asgand (Withania somnifera): Known as a Muqawwi-e-Aam (General Tonic). It counters the cold temperament and strengthens the bones and nervous system.
2. Satawar (Asparagus racemosus): Contains phytoestrogens. It is Barid-Ratab (Cold-Moist), making it excellent for treating hot flashes and vaginal dryness.
3. Badranjboya (Melissa officinalis): A primary heart and brain exhilarant (Mufarreh). It treats menopausal anxiety and palpitations.
4. Maghz-e-Badam (Almond Kernel): Vital for brain health and combating the "dryness" that causes insomnia.

Compound Formulations (Murakkabat)

Khamira Abresham Hakim Arshad Wala: A potent tonic for the heart and brain to manage emotional instability.

Majoon-e-Supanpak: Used traditionally for uterine health and general female weakness.

safoof-e-Asgand: Specifically for joint pains and backache.
Ilaj-bit-Tadbeer (Regimental Therapy)

These are non-medicinal procedures used to balance the humors:

Dalak (Massage): Regular massage with Roghan-e-Zaitoon (Olive Oil) or Roghan-e-Babuna (Chamomile Oil) helps move the stagnant humors and treats joint pain.

Hammam (Turkish Bath): Induces sweating, which acts as a substitute for the "cleansing" effect of menstruation.

Riyazat (Exercise): Moderate exercise is essential to prevent the accumulation of Balgham (Phlegm), which often leads to weight gain during menopause.

Hijama (Cupping): In some cases, wet cupping is used to "detoxify" the blood, mimicking the natural evacuation of menses.

CONCLUSION

In the Unani perspective, menopause is the "Autumn of Life." While modern medicine focuses on hormone replacement, Unani focuses on Mizaj adjustment. By maintaining the body's moisture and heat through diet, herbal tonics, and regimental therapies, a woman can transition into this phase without significant physical or psychological distress.

The emphasis remains on the Quwat-e-Mudabbira-e-Badan; the physician's job is simply to remove the obstacles (toxins) and provide the raw materials (proper nutrition) so the body can balance itself.

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