

Difference Between Amenorrhea and Menopause

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Key Difference – Amenorrhea vs Menopause

Amenorrhea can be defined as the absence of <u>menstruation</u>. However, during pregnancy, lactation, and menopause, menstruation does not happen and the absence of menstruation in those instances is not considered as amenorrhoea. Menopause is the termination of menstruation approximately at the age of 52, and it represents the end of a woman's reproductive life. Thus, the key difference between amenorrhea and menopause is that **menopause** is a **natural**, **physiological process**, **whereas amenorrhea is a pathological condition that requires proper treatments**.

What is Amenorrhea?

Amenorrhea is the absence of menstruation and it is classified into two categories as primary and secondary amenorrhea.

If a girl fails to menstruate by the age of 16 years, it is called the primary amenorrhea. If a female of reproductive age fails to menstruate for 6 consecutive months, it is called the secondary amenorrhea.

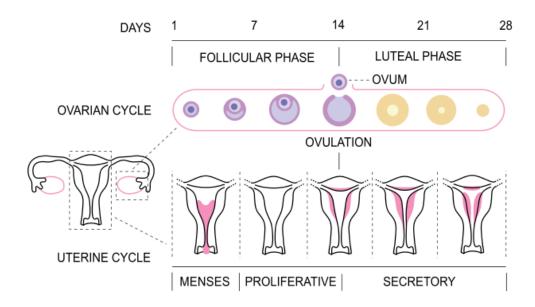


Figure 01: Normal Menstrual Cycle

Causes

Causes of amenorrhea can be categorized into four categories as anatomical disorders, ovarian disorders, pituitary disorders and hypothalamic disorders.

Anatomical Disorders

- Genital tract abnormalities
- Mullerian agenesis
- Asherman's Syndrome
- Transverse vaginal septum formation
- Imperforate hymen

Asherman's syndrome is the presence of adhesions in the uterus as a result of excessive and vigorous uterus curettage. Mullerian agenesis is a congenital disorder characterized by the malformation of the vagina and the absence of a uterus.

Ovarian Disorders

- Polycystic ovarian syndrome(PCOS)
- Premature ovarian failure (POF)

POF is the cessation of menstruation before forty years of age.

Pituitary Disorders

• pituitary necrosis and adenomas

Prolactinoma is the commonest <u>adenoma</u> seen in the <u>pituitary gland</u>. Pituitary necrosis occurs in the Sheehan syndrome where the hypovolemia secondary to a postpartum hemorrhage reduces the perfusion to the pituitary gland leading to <u>ischemia</u> and <u>necrosis</u> of the gland.

Hypothalamic Disorders

These can directly or indirectly affect the gonadotropin secretion leading to a hormonal imbalance resulting in amenorrhea.

- Stress, excessive exercise and weight loss may suppress the hypothalamic stimulation of pituitary.
- Head injuries
- Hypothalamic lesions like craniopharyngioma and glioma.

Other Causes

- Drugs like progesterone, Hormone replacement therapy, dopamine antagonists
- Systemic disorders including sarcoidosis, TB

Investigations

It is important to take a proper history and examine the patient carefully before thinking about the investigations.

- Blood LH, FSH and <u>testosterone</u> levels can be checked. Increased LH and testosterone levels suggest polycystic ovarian syndrome whereas elevated FSH levels suggest premature ovarian failure.
- If a prolactinoma is suspected, prolactin level should be measured.
- Polycystic ovaries can be detected by the ultrasound
- Magnetic resonance imaging can be done if the symptoms are suggestive of a pituitary adenoma.
- If Asherman's syndrome or cervical stenosis is suspected, hysteroscopy can be done.

Management

Management of amenorrhea varies according to the underlying cause of the disease.

- Dietary advice and support are given if the amenorrhea is due to the growth retardation.
- Hypothalamic lesions like glioma can be resected by a surgery. Prolactinoma
 can be treated with dopamine agonists like cabergoline or bromocriptine. If
 the patient does not respond to these drugs, surgical removal of the
 prolactinoma is necessary.
- Hormone replacement therapy or Cyclic Oral Contraceptive Pills (COCP) can be used to treat POF.

- If the patient has Asherman's syndrome, adhesiolysis, and intrauterine device insertion are carried out at the time of hysteroscopy.
- Cervical stenosis is treated by cervical dilatation and hysteroscopy.
- COCP and Cyclic Oral Progesterone which regulate the menstrual cycle can be prescribed to a patient suffering from the Polycystic Ovarian Syndrome. If the patient has hyperinsulinemia and cardiovascular risk factors, metformin should be used instead of COCP and COP.

What is Menopause?

The termination of the menstruation of a woman approximately at the age of 52 years is known as the menopause. It indicates the end of a woman's reproductive life.

In order to confirm that the patient has undergone menopause, there should be amenorrhea of twelve consecutive months. Surgical menopause can occur when ovaries are removed during a hysterectomy for malignancy or severe endometriosis. Chemotherapy and treatment with GnRH analogs are the other iatrogenic causes of menopause.

Pathophysiology

The human <u>ovary</u> has two distinct regions: outer cortex and the inner medulla. The outer cortex mainly contains follicles in various stages of development and the inner medulla has a network of blood vessels. There are stromal cells scattered throughout the ovary performing three major functions. These functions of the stromal cells,

- Support the ovarian tissue
- Produce steroids
- Mature into the cal cells which surround the developing follicles.

Ovaries produce four main hormones- estradiol, progesterone, testosterone and androstenedione.

In utero, there are about 1.5 million primordial follicles in the ovaries. But most of these follicles degenerate without reaching the maturity and only about four hundred follicles ovulate within the normal reproductive life of a female. When the number of follicles inside the ovaries drops below a certain level, estrogen

production irreversibly declines. When this happens, there is no adequate hormonal stimulation to enhance the endometrial proliferation and, the menopause sets in.

Effects of Menopause

The effects of menopause vary from person to person. Some women will be symptomless while others can have debilitating symptoms that affect their day to day life.

Symptoms observed during the first five years of menopause

- Vasomotor symptoms like hot flushes, night sweats
- Psychological symptoms such as the labile mood, anxiety, tearfulness, loss of concentration, poor memory, and loss of libido.
- Hair changes
- Skin changes
- Joint aches

Symptoms observed between 3 to 10 years of menopause,

Urogenital problems such as

- vaginal dryness,
- soreness,
- dyspareunia,
- sensory urgency,
- Recurrent UTI
- Urogenital prolapse.
- vaginal atrophy

Menopause can also have long-term effects such as osteoporosis, cardiovascular diseases, and dementia.

Menopause Headache Systemic Psychological - Weight gain - Dizziness - Heavy night sweats - Interrupted sleeping patterns **Palpitations** Anxiety - Poor memory Breasts -- Inability to - Enlargement concentrate - Pain - Depressive mood Skin -- Irritability - Hot flashes - Mood swings - Dryness - Less interest in - Itching sexual activity - Thinning - Tingling Transitional menstruations Joints -- Shorter or longer - Soreness - Stiffness - Bleeding between Back pain periods Urinary -Vaginal - Incontinence - Drvness - Urgency - Painful intercourse

Symptoms of

Figure 02: Signs and Symptoms of Menopause

Management

As menopause is a natural event clinical management is not often required. But awareness of the long-term complications like osteoporosis and cardiovascular diseases should be improved.

Hormone replacement therapy (HRT) is the main medical treatment for the bothersome menopausal effects. It replaces the normally produced human hormones at physiological levels. Estrogen is the main hormone that is supplemented by HRT. It can be given alone or together with progesterone. Vasomotor symptoms, urogenital symptoms, and sexual dysfunctions can be alleviated by the continuous treatment with HRT. But the major setback of the hormone replacement therapy is that it increases the risk of thromboembolism and breast cancers.

What are the similarities between Amenorrhea and Menopause?

- Menopause and amenorrhea occur due to the cessation of ovulation.
- HRT can be used to treat both menopause and amenorrhea.
- In both occasions, there is a hormonal imbalance.

What is the difference between Amenorrhea and Menopause?

Amenorrhea vs Menopause

Amenorrhea is the absence of menstruation.

Menopause is the termination of the menstruation of a woman.

Condition

Amenorrhea is a pathological condition

Menopause is a physiological condition

Management

Management modality changes according to the underlying cause.

This is typically managed with HRT.

Summary – Amenorrhea and Menopause

Menopause and amenorrhea are two conditions related to menstruation. Amenorrhea is the absence of menstruation while menopause is the termination of menstruation, marking the end of the reproductive age of a woman. Both these conditions occur due to the cessation of ovulation. However, the difference between amenorrhea and menopause is that menopause is a natural, physiological process, whereas amenorrhea is a pathological condition.

Reference:

1. Monga, Ash, and Stephen P. Dobbs. Gynaecology by ten teachers. CRC Press, 2011.

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