

# Menopause and Hormone Replacement Therapy: Review Questions

*Jordan G. Pritzker, MD, MBA, FACOG*

## QUESTIONS

Choose the single best answer for each question.

- 1. A 46-year-old woman (G3P3) visits her physician because of a 12-month history of hot flashes, decreased libido, and no menses. She has no significant medical/surgical history, had menarche at age 12 years, and has smoked 1 pack of cigarettes daily for many years. She uses no contraception because she feels she is too old to conceive. Physical examination reveals no significant abnormalities. Her follicle-stimulating hormone (FSH) level is 76 mIU/mL. She is concerned that many of her friends of the same age still have regular menstruation and no hot flashes. She is interested in hormone replacement therapy (HRT) because she is worried about “aging too fast.” Which of the following statements concerning the menstrual status of this patient is most accurate?**

  - Her cessation of menstruation is not caused by ovarian follicular activity cessation
  - Her serum FSH level is consistent with menopause
  - She is unlikely to be experiencing menopause because the average age of menopause has increased with the increase in life expectancy of women
  - She is younger than the average age of menopause in the United States
- 2. Which of the following variables is associated with earlier onset of menopause?**

  - Age of menarche
  - Parity
  - Race
  - Smoking
  - Socioeconomic status
- 3. Which of the following symptoms is the most common reason that patients seek medical care during menopause?**

  - Hot flashes
  - Insomnia
  - Irregular menstruation
  - Urinary incontinence
- 4. Which of the following conditions can result from using HRT for management of menopause?**

  - Colorectal cancer
  - Improved visual acuity
  - Osteoporosis
  - Urogenital atrophy
  - Vasomotor flushes
- 5. Which of the following is NOT a potential adverse effect of HRT in the management of menopause?**

  - Abdominal bloating
  - Breast tenderness
  - Fluid retention in extremities
  - Uterine bleeding
  - Weight gain
- 6. Which of the following is NOT a contraindication to postmenopausal HRT?**

  - Chronically impaired liver function
  - Endometrial adenocarcinoma
  - History of breast cancer
  - Hypertriglyceridemia
  - Impaired glucose tolerance

*(turn page for answers)*

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*Dr. Pritzker is an Assistant Professor, Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, NY; and a practicing faculty member in the Department of Obstetrics and Gynecology, Women's Comprehensive Health Center, Long Island Jewish Medical Center, New Hyde Park, NY.*

EXPLANATION OF ANSWERS

1. **(B) Her serum FSH level is consistent with menopause.** Consistently elevated levels of follicle-stimulating hormone (ie, greater than 30 mIU/mL) confirm menopause. Menopause is the permanent cessation of menstruation that occurs because ovarian follicular activity has ceased. The average age of onset of menopause is 51.4 years, and the average range of age for menopause is 44 to 59 years, with most patients experiencing irregular menstrual function for 4 to 5 years before menopause. Natural menopause occurs after 12 months of amenorrhea and therefore is a diagnosis of retrospection. Although there has been an increase in life expectancy for women over the years, the age of menopause has not changed over the past few centuries. In previous years, few women lived into the menopause; today, women live at least one third of their lives after menopause.
2. **(D) Smoking.** Smoking is associated with earlier onset of menopause. A dose-dependent relationship exists between the number of cigarettes smoked and the duration of smoking. Current smoking can hasten the onset of menopause by as much as 1.5 years. Former smokers also show evidence of earlier menopause. There is little correlation between the onset age of menopause and age of menarche, race, parity, or socioeconomic status.
3. **(C) Irregular menstruation.** Decreased frequency of ovulation and erratic levels of ovarian secreted hormones cause irregular menstruation in the perimenopause. Approximately 90% of women experience 4 to 8 years of menstrual irregularities before menopause. The hot flash (or flush) is the second most frequent perimenopausal symptom. The precise etiology of the hot flash is unknown; however, low or withdrawing levels of estrogen are required for a hot flash to occur. Insomnia (ie, inadequate amount or poor quality of sleep) seems to occur more frequently during the perimenopause. Menopausal hot flashes and night sweats may contribute to the increased incidence of insomnia in the perimenopause. Urinary incontinence affects 10% to 30% of women in the United States between the ages of 50 and 64 years.
4. **(B) Improved visual acuity.** Evidence suggests that estrogen therapy improves visual acuity, perhaps by causing a beneficial effect on lacrimal fluid. Postmenopausal women who use hormone replacement therapy (HRT) have been found to have a markedly reduced risk for macular degeneration, a cause of painless central visual loss in elderly patients. The increased prevalence of keratoconjunctivitis sicca in menopausal women is often symptomatically relieved by HRT. Reduced risks for colorectal cancer have been reported in former users of HRT; this effect is greater in current HRT users and increases with duration of use. Estrogen therapy prevents osteoporosis (ie, bone loss) by decreasing bone resorption, increasing calcium absorption, reducing renal clearance, and reducing osteoporosis-related fractures. Estrogen therapy is most effective when initiated within 5 years of menopause and continued into later years. Urogenital atrophy is caused by the hypoestrogenic state of menopause. Treatment with estrogen can restore vaginal blood flow, which allows for the growth of normal microbiologic flora of the vagina that is dependent on the glycogen content of the epithelial. Thus, normal vaginal pH, moisturization, and a protective ecologic milieu are restored by HRT therapy. Hot flashes, which occur in approximately 75% of menopausal women, are unrelated to HRT therapy.
5. **(E) Weight gain.** Weight gain has been absolved as an adverse effect of HRT. The Rancho Bernardo and Postmenopausal Estrogen/Progestogen Intervention studies found no significant weight difference between women who did and did not use hormones. Uterine bleeding, abdominal bloating, breast tenderness, weight gain, and fluid retention in extremities are common adverse effects of HRT, which can decrease patient compliance and lead to discontinuance of therapy.
6. **(E) Impaired glucose tolerance.** Low-dose postmenopausal HRT has been shown to improve peripheral insulin resistance, prevent hyperinsulinemia, and reduce the risk for type 2 diabetes mellitus. In fact, the cardiovascular benefits of HRT may significantly help patients with diabetes mellitus. Estrogen is metabolized in the liver; therefore, HRT is contraindicated in patients with chronically impaired liver function. Endometrial adenocarcinoma is almost always an estrogen-sensitive cancer, and HRT is accordingly contraindicated. Breast cancer also is often an estrogen-sensitive cancer. After primary treatment of the breast cancer, metastatic cells may still be present and susceptible to exogenous hormones. Hypertriglyceridemia and pancreatitis can be precipitated by HRT administration in women with triglyceride levels between 250 and 750 mg/dL.