

House Call

BY PATRICIA GANZ, MD

Question: What causes premature menopause and are there ways to prevent it?

Answer: Most women in the United States enter menopause around age 51, but for women exposed to certain cancer treatments, the stop of menstrual periods for more than 12 months before the age of natural menopause can be considered premature.

Premature menopause is usually defined as menopause that occurs before age 40. In the setting of cancer and its treatment, the most common cause of premature menopause is exposure to chemotherapy drugs that injure the ovarian tissue, diminishing the number of eggs that mature each month and produce female hormones (estrogen and progesterone) as part of the menstrual cycle. The ovarian tissue contains rapidly growing and dividing cells, and these are innocent bystanders as chemotherapy courses through the bloodstream to attack cancer cells.

Other treatments, such as radiation to the pelvic area, induce premature menopause through a similar mechanism of injury to the ovarian tissue. Not much radiation is needed to do so, since these tissues are quite sensitive. Some hormonal treatments given to suppress ovarian function as part of breast cancer treatment suppress ovarian hormone secretion and induce a temporary menopause during treatment. Finally, some women will require surgical removal of their ovaries as a part of cancer treatment, and this will abruptly initiate the onset of menopause.

The risk of premature menopause from chemotherapy and radiation therapy is generally greater in older women, as there are fewer remaining eggs available in the ovaries, and any loss from treatment will be significant. The age-related risk of premature menopause varies with the specific chemotherapy drugs used and their duration of administration.

Some women may temporarily stop menstruating after chemotherapy while others will never have it resume. When periods stop, it is impossible to know whether or not it is permanent, and blood tests evaluating hormone levels do not predict what will happen. Women whose menstrual periods stop with chemotherapy often experience severe menopausal symptoms (hot flashes, night sweats, sleep disturbance, vaginal dryness) that may be as severe as those associated with surgical menopause. Unlike the usual perimenopausal transition that lasts five to 10 years, letting a woman's body gradually adjust to declining estrogen levels, these women suffer severe symptoms from the sudden change in hormone levels.

The symptoms associated with menopause can be very troubling for some women, although there is considerable variability. For women with breast cancer, hot flashes can be managed with non-estrogen therapies, including various antidepressant medications, several blood pressure medications, Megace® (megestrol acetate) and Neurontin® (gabapentin). Oral or patch preparations of estrogen or estrogen and progesterone have been shown to increase the risk of breast cancer recurrence in breast cancer survivors and should not be prescribed in this setting, unless the woman is fully informed and willing to take on the risk.

Other potential risks from premature menopause are a rapid decline in bone mass (osteoporosis), increases in cardiovascular lipids and weight gain. These are all physiological changes of normal menopause and aging, but they may be much more dramatic in the setting of premature menopause. Therefore, screening for these medical conditions should be performed.

Great interest lies in preventing premature menopause to reduce symptoms as well as to preserve fertility in younger women. Though no proven or standard preventive approach currently exists, research studies are under way to examine whether or not the administration of a gonadotropin-releasing hormone medication (GnRH analogs) can “put the ovaries to sleep” during chemotherapy and protect them from damage. The thinking is that if ovarian cells are not rapidly growing and dividing, they may be less likely to sustain damage from chemotherapy. The GnRH analogs induce short-term menopause, which may cause additional symptoms during chemotherapy.

Premature menopause is a distressing side effect of treatment, but for now, it may be a necessary consequence of curative cancer treatment. As therapies become more targeted and exposure to chemotherapy and radiation more limited, researchers hope to find a way to prevent premature menopause in women receiving life-saving treatments.

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