For postmenopausal women with newly diagnosed osteoporosis, assessing the risk of breast cancer prior to prescribing a bone medicine could maximize the benefits of the selected treatment.
The woman in this case is clearly at increased risk for breast cancer. What are her choices for reducing her risk of developing breast cancer?

Options for preventing breast cancer

There are many strategies to prevent breast cancer, including lifestyle interventions, pharmacotherapy, and mastectomy. Lifestyle interventions that may reduce the risk of breast cancer in postmenopausal women include: maintain a body weight in the normal range, reduce or eliminate the consumption of alcoholic beverages, exercise daily, and quit smoking.

Mastectomy has been demonstrated to reduce the risk of breast cancer in women at very high risk (BRCA positive), but it is seldom used in women at moderate risk for breast cancer.

Pharmacologic interventions for the prevention of breast cancer include tamoxifen, raloxifene, and exemestane. All three agents reduce the risk of breast cancer by about 50%. In fact, the US Preventive Services Task Force (USPSTF) recently recommended the use of tamoxifen or raloxifene to reduce breast cancer risk in patients at high risk. (See “USPSTF recommends tamoxifen or raloxifene to reduce breast cancer risk in high-risk patients” at obgmanagement.com.)

Exemestane is an aromatase inhibitor that causes bone loss. Consequently, this agent would not be an optimal choice for use in a woman with osteoporosis. Like raloxifene, tamoxifen is thought to increase bone density and decrease the risk of osteoporotic fracture. Consequently, for a woman with osteoporosis, with an elevated risk of breast cancer, raloxifene or tamoxifen could be prescribed with the dual goals of reducing the risk of osteoporotic fracture and reducing the risk of breast cancer.

Two good options: Raloxifene and tamoxifen

Raloxifene and tamoxifen are both good choices for treating osteoporosis in women at high risk for breast cancer. For women with a uterus, raloxifene is the preferred agent because tamoxifen can cause endometrial cancer. For women without a uterus, either raloxifene or tamoxifen could be utilized.

What is the benefit-to-risk ratio for these agents?

Dr. Gabriel Hortobagyi and Dr. Powel Brown have provided a snapshot of the pros and cons of using raloxifene and tamoxifen for breast cancer prophylaxis by estimating benefits and risks in 1,000 women treated for 5 years with an additional 2 years of follow-up (7 years of observation). In their analysis it was assumed that the women had a 5-year risk of developing breast cancer of 4% (the mean risk for “high risk” subjects entered into the STAR P-2 Trial).

They calculated that after 7 years of observation, treating 1,000 women with tamoxifen 20 mg daily for 5 years will prevent 20 invasive and 20 noninvasive breast cancers and cause 2.25 endometrial cancers and 3.3 thromboembolic events. Treating 1,000 women with raloxifene 60 mg daily for 5 years will prevent 15 invasive and 16 noninvasive breast cancers and cause no cases of endometrial cancer and 2.47 thromboembolic events. They concluded that for these major events, tamoxifen caused 40 beneficial events and 5.55 adverse events for a benefit-to-risk ratio of approximately 7. Raloxifene caused 31 beneficial events and 2.47 adverse events for a benefit-to-risk ratio of approximately 13.

Be aware of treatment-specific adverse effects

Raloxifene and tamoxifen treatment cause different patterns of symptom side effects and gynecologic problems. Tamoxifen treatment results in more vasomotor symptoms, leg cramps, and bladder control problems than treatment with raloxifene. Raloxifene is associated with more dyspareunia, lower libido, and more vaginal dryness, weight gain, and musculoskeletal problems than tamoxifen.

Tamoxifen treatment results in more problems with leiomyomata, endometriosis, endometrial polyps, and endometrial cancer than treatment with raloxifene. In turn, this results in more gynecologic surgical procedures, such as endometrial biopsy, oophorectomy, laparoscopy, and hysteroscopy being performed on women taking tamoxifen than on women taking raloxifene. In the largest clinical trial, adherence to treatment was greater for raloxifene than tamoxifen. For women with an intact uterus, raloxifene is likely the better choice for breast cancer prevention.
CASE I would recommend raloxifene to the case patient

For the woman presented in this case—who has osteoporosis and a 5-year risk for breast cancer of 6%, as well as an intact uterus—a 5-year course of raloxifene would be an appropriate treatment both to reduce her risk of breast cancer and to treat her osteoporosis.

To achieve the goal of the American Society of Clinical Oncology to increase the use of chemoprevention in women at increased risk of breast cancer, ObGyns will need to take a lead role in assessing our patients for breast cancer risk and counseling them about chemopreventive options.

RBARBIERI@FRONTLINEMEDCOM.COM

Dr. Barbieri reports no financial relationships relevant to this article.

References


