Treating Bone Loss in Breast Cancer Survivors
By Emily Tuerk, MD
October 7, 2011

This month has been designated to bring awareness to breast cancer. It’s amazing to see how far we’ve come even in the past few years in increasing the number of survivors of breast cancer. Still, there is a long way to go in not only treating cancer but also in minimizing physical consequences from treatment.

Osteoporosis is a growing concern among breast cancer survivors and their doctors, because certain cancer drugs can cause bone loss.

Many breast cancer patients also experience secondary causes of bone loss, such as vitamin D deficiency. But a Loyola University Health System study has found that bone loss can be halted with a comprehensive regimen that includes both osteoporosis drugs and treatments that target secondary causes of bone loss.

One of my colleagues Dr. Pauline Camacho is leading the way in this type of research. She is encouraging doctors who evaluate breast cancer patients for possible bone loss to look beyond just cancer drugs.

Primary causes of osteoporosis are menopause and aging. Secondary causes are diseases or conditions that exacerbate bone loss.

A class of breast cancer drugs called aromatase inhibitors can decrease bone mineral density and increase the risk of fractures in postmenopausal women. The drugs decrease the body's production of estrogen. While estrogen feeds cancer, the hormone also protects against osteoporosis. In certain breast cancer patients, bone loss from cancer drugs can be treated with osteoporosis drugs called bisphosphonates, such as alendronate sodium (Fosamax®) and ibandronate sodium (Boniva®).

A review of charts of 81 consecutive breast cancer patients who were referred to Loyola University Health System’s Osteoporosis and Metabolic Bone Disease Center for treatment or prevention of osteoporosis revealed 51 patients had secondary causes of bone loss, including vitamin D deficiency (65 percent), excessive calcium excretion in urine (16 percent) and an overactive parathyroid gland (13 percent). Thirty patients did not have secondary causes of bone loss.

Each group received similar treatment with osteoporosis drugs. Women with secondary bone loss also received additional treatments. For example, vitamin D deficiency was treated with prescription doses of vitamin D supplements. Excessive calcium excretion was treated with a "water pill" that's also used to treat high blood pressure. There were various treatments for parathyroid gland disorder, depending on the cause.

After one year, the breast cancer patients with secondary causes of bone loss had stable bone mineral density in their spines and necks. Bone mineral density improved in the group of breast
cancer patients who did not have secondary causes of bone loss. (Bone mineral density — the amount of calcium and other minerals packed into a segment of bone — predicts osteoporosis.)

Camacho said the study demonstrates that bone loss "can be prevented in women undergoing hormonal therapy if secondary causes of bone loss are corrected and bisphosphonate osteoporosis drugs are appropriately used."

Dr. Emily Tuerk is an integral part of the Loyola University Health System’s primary care team. She specializes in adult internal medicine and pediatrics and enjoys seeing patients of all ages from infants to older adults at the Loyola Center for Health at Homer Glen. In addition, she is an assistant professor at Loyola University Chicago Stritch School of Medicine in the departments of internal medicine and pediatrics. When not seeing patients she enjoys spending time with family, biking, running and cooking.