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Cancer Treatment-Induced Bone Loss in Patients With Breast or Prostate Cancer

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Purpose/Objectives: To review the prevalence, consequences, pathophysiology, diagnosis, and treatment of cancer treatment-induced bone loss (CTIBL) in patients with breast or prostate cancer.

Data Sources: Published articles, abstracts, book chapters, electronic resources, and manufacturer information.

Data Synthesis: CTIBL is a long-term complication associated with cancer therapies that cause hypogonadism in patients with breast or prostate cancer. Early diagnosis and treatment of CTIBL is essential to prevent bone fractures. CTIBL treatment includes modification of lifestyles that increase the risk of developing bone loss and fractures and includes the use of bone loss therapies (e.g., bisphosphonates, selective estrogen receptor modifiers, calcitonin).

Conclusions: CTIBL is becoming more common as patients with breast or prostate cancer survive longer. Identifying and treating CTIBL early are important because once bone is lost, damaged bone becomes more difficult to repair; early diagnosis and treatment also may prevent fractures.

Implications for Nursing: Nurses must be knowledgeable about CTIBL to identify high-risk patients and educate patients and their families about CTIBL, bone loss therapies, and lifestyle modifications.

Key Points . . .

- ▶ Cancer treatment-induced bone loss (CTIBL) commonly occurs in patients with breast cancer with chemotherapy-induced menopause; some patients with breast cancer receiving hormonal therapy, such as aromatase inhibitors; and patients with prostate cancer receiving androgen deprivation therapy.
- ▶ Patients at risk for CTIBL should adopt lifestyles that preserve bone health, including smoking cessation, moderate alcohol consumption, weight-bearing exercise, adequate calcium and vitamin D intake, and measures to prevent falls.
- ▶ Bisphosphonates are the most effective therapies for patients with CTIBL. IV bisphosphonates are more potent, better tolerated, and less frequently administered than oral bisphosphonates.

Goal for CE Enrollees:

To enhance nurses' knowledge about cancer treatment-induced bone loss (CTIBL) in people with breast or prostate cancer.

Objectives for CE Enrollees:

1. Describe factors that can place a person with breast or prostate cancer at risk for CTIBL.
2. Outline the assessment and diagnostic measures used to evaluate a person with CTIBL.
3. Discuss interventions that should be included in a plan of care for a person with CTIBL.

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