Advances in the Treatment of Bone Metastases

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The skeleton is the third most common site for cancer to spread to after the liver and lungs. Malignancies that can cause destruction of skeletal bones include multiple myeloma and metastatic disease of the breast, prostate, and lung. Bone metastases are problematic for patients with cancer because accelerated bone breakdown occurs with many associated complications. One or more of the following problems may occur: pain, hypercalcemia, pathologic fractures, myelosuppression, and spinal cord compression with subsequent progressive immobility. Quality of life is affected negatively, and associated feelings of fear, grief, anger, despair, anxiety, and depression can occur. Management of malignancies of the bone involves a multimodal approach. Therapies include analgesia, hormone therapy, chemotherapy, surgery, radiation therapy, and the use of bisphosphonates. Nurses can be instrumental in promoting positive outcomes for patients with bone metastases.

Key Words: metastases, neoplasm; pain; radiotherapy; bisphosphonates

Pathophysiology of Bone Metastases

The cortical (calcified) matrix stores many growth factors. These can nourish cancer cells that have settled in the bone, thus providing a fertile microenvironment for the continued growth of cancer cells. Because cancellous

Submitted April 2003. Accepted for publication May 30, 2003. (Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Clinical Journal of Oncology Nursing or the Oncology Nursing Society.)

Digital Object Identifier: 10.1188/03.CJON.641-646