

Metastatic bone disease in the era of bone-targeted therapy: clinical impact

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ABSTRACT

Advances in the diagnosis and treatment of tumors by surgery, chemotherapy, biotherapy, radiotherapy and other modalities have increased the survival of cancer patients over the last 20 years. As a consequence, bone now represents the third most common site of metastatic involvement after the lung and liver. Approximately 20-25% of patients with neoplastic disease develop clinically evident bone metastases (BMs) during the natural course of their illness, with a further 50% of such lesions being identified during autopsy. BMs are the major cause of morbidity in cancer patients because of their epidemiological and clinical impact. Pain is the most frequent symptom in about 75% of patients but other serious complications can also occur, such as pathological fractures, spinal cord compression, hypercalcemia and bone marrow suppression. These complications worsen the patient's general condition and reduce patients' mobility, facilitating the development of lung infections, skin ulcers, deep vein thrombosis, etc., and ultimately reducing prognosis and quality of life. The frequency of serious complications depends on the site and type of lesions and the treatment administered. Over the last 10 years, the introduction of bisphosphonates for the treatment of patients with BMs has led to a marked decrease in the frequency of complications, thus improving quality of life and clinical outcome. Furthermore, progress in understanding the pathophysiology of bone metastases has resulted in the development of new bone-targeted molecules such as denosumab. We therefore felt it would be useful to report on the epidemiological, clinical and economic impact of bone disease in a cancer setting.

Key words: bone metastases, clinical impact, skeletal-related events, bone-targeted therapy.

Acknowledgments: The authors thank Ursula Elbling for editing the manuscript.

Conflicts of interest: None declared.

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Received May 18, 2012;
accepted October 9, 2012.