

CONTENTS

Easing Bone Pain

BY ELIZABETH WHITTINGTON

Cancer that has spread to the bone can cause chronic pain, and many patients are undertreated for it. Pain is triggered when cancer cells stretch the membrane covering bone tissue or affect nerves within the bone. A delicate balance of osteoclasts (cells that destroy bone tissue) and osteoblasts (cells that build bone tissue) exists normally. When cancer cells cause osteoclasts to multiply at an abnormal rate, osteoblasts are unable to build up enough bone to prevent bone injury, resulting in pain and weak bones.

Pain specialists are addressing this problem and creating pain strategies specifically for metastatic cancer patients, many of whom may live for years with their disease.

Now, many of the 'non-curable' cancers can still be managed into long-term survival, and this changes the outlook of pain control," says Allen Burton, MD. "Many patients have reasonable expectations for a good quality of life during that time."

Radiation is the most common treatment for metastatic bone pain, but full pain relief can take up to six weeks of treatments. Localized radiation is preferred, but for metastases throughout the body, radiopharmaceuticals, such as Quadramet (samarium 153) and Metastron (strontium 89), are used. These intravenous drugs deliver a radioactive dose to a localized area, sparing normal tissue. They attach themselves to the sites of bone metastases and irradiate the cancer cells. Relief can last for several months and the moderate side effects can include risk of infection because of low white blood count.

Aredia (pamidronate) and Zometa (zoledronate) are part of a group of drugs that inhibit bone resorption called bisphosphonates, that relieve pain quickly and effectively. Ibandronate is a newer, more powerful bisphosphonate, an oral form of which was recently approved for prevention and treatment of osteoporosis. The intravenous form of ibandronate is being studied in cancer patients with bone metastases. In phase III trials, I.V. and oral ibandronate reduced pain caused by bone metastases in metastatic breast cancer patients.

Research recently found that patients who take bisphosphonates for at least a year may be at a slightly increased risk for osteonecrosis of the jaw, a side effect that causes a loss, or breakdown, of the jaw bone. The risk is lower for oral bisphosphonates compared with the I.V. drugs. Patients taking a bisphosphonate should inform their dentist and report any dental problems to both their dentist and oncologist.

A new antibody called denosumab (formerly AMG 162) directly inhibits a protein

called RANK (receptor activator of nuclear factor κ B) ligand, which activates osteoclasts. This monoclonal antibody can be given as infrequently as once every three to six months and is being studied in phase III trials for relieving bone pain.