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Optimizing the Life Quality of Tumor Symptomatic Patients: Emphasis on Metastatic Bone Cancer

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Abstract

Skeletal complications are frequently linked to patients with advanced cancer who have metastatic bone disease. These can be crippling, resulting in pain, reduced quality of life, and decreased survival rates. This review looks at ways to minimize the significant burden that metastatic bone pain can place on affected patients by optimizing management. Despite the availability of numerous treatment options, cancer-related pain is notoriously undertreated and underreported. Analgesics other than opioids can be used. The latter are typically given in conjunction with radiotherapy, which is the current treatment of choice for patients who are experiencing pain in metastatic bone. In some complicated cases of metastatic bone disease, surgery may be necessary, but other options like radiopharmaceuticals may provide additional relief. Collectively known as bone-targeted agents (BTAs); denosumab and bisphosphonates) can provide additional pain relief. All patients with metastatic bone disease should start treatment with BTAs because these drugs delay not only the onset of skeletal-related events but also the onset of bone pain. The potential for individualized care for these patients is further enhanced by the emergence of evidence for the pain-relieving properties of new anticancer medications.

Physicians' thorough understanding of the potential synergistic benefits and drawbacks of the various agents is essential to optimizing care. In the holistic approach to cancer pain management, appropriate anti-tumor treatment, early initiation of BTAs, and adequate analgesia may lessen the debilitating effects of metastatic bone pain.

Keywords: Bisphosphonates; Bone; Cancer; Denosumab; Metastatic

Introduction

When cancer has spread to bone, a multidisciplinary approach is essential for managing patients. Known as skeletal-related events (SREs), bone metastases frequently result in complications that are associated with significant morbidity, reduced quality of life (QoL), increased resource utilization, and decreased survival. When breast, prostate, or lung cancer is advanced, bone metastases are particularly prevalent; In fact, approximately 40% to 75% of these patients have post-mortem evidence of metastatic bone disease [1]. Multiple myeloma always spreads to multiple bone locations, and renal cell carcinoma also has a bone metastasis. We go over metastatic bone pain, how it affects patients, and how treatment can improve quality of life here; a summary of the ramifications for clinical practice The majority of people who have metastatic cancer experience pain, which ranges from moderate to severe in nearly half of the cases. This pain frequently comes from primary cancers that have spread to the bone. For instance, bone pain was reported by 81.4% of patients with metastatic cancer, while pleuritic, neural, visceral, and headache-related pain was reported by only 23.3%, 10.9%, 7.8%, and 0.8% of the same patients. In fact, patients with bone metastases who participated in bisphosphonate and denosumab studies reported significant pain at study entry: The mean bone pain scores on the Brief Pain Inventory (BPI) were, mean BPI (Short Form; BPI-SF) showed that 24% of patients had moderate bone pain, while 23% had severe bone pain [2].

Method

The inflammatory and neuropathic pathways that lead to metastatic bone pain are complex. Numerous inflammatory cells can be found in tumors, and both inflammatory cells and tumor cells secrete a variety of chemicals that ease pain by activating sensory nerve endings in the bone. These endings can be destroyed and the environment can become acidic as a result of increased osteoclast activity, resulting in neuropathic pain and stimulation of pH-sensitive nerve endings [3]. In addition, osteoplastic bone loss weakens bone, resulting in pain through mechanosensitive receptors. Invading tumors, bone distension, or nerve damage can cause constant pain at rest and increase sensitivity to pain when moving. Periosteum stretching may also result in bone distension, despite the fact that periosteal infiltration is uncommon. Bone pain can also be brought on by SREs like pathologic fracture, radiation or surgery to the bone, and spinal cord compression [4].

Result

Patients with metastatic breast cancer experiencing on study SREs reported increased pain, and pain interference with daily functioning, compared with those with no on-study SREs. Meta-analyses also show that SREs in patients with metastatic cancer significantly increase the risk of pain progression and the need for strong opioids. Furthermore, SRE associated pain may persist despite strong opioid use, such that patients might not recover fully. Cancer related pain can markedly reduce QoL, negatively affecting mood, work, relationships, and the ability to walk and sleep. Sleep disturbance can further perturb pain tolerance thresholds, potentially leading to a vicious cycle of pain [5].

The value of routinely evaluating patient-reported outcomes was recently demonstrated in patients with metastatic cancer. There are numerous tools for evaluating metastatic bone pain and its impact on quality of life. A Symptom Tracking and Reporting system was used by one group to report their symptoms between clinic visits, notifying

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nurses of severe or worsening symptoms. At visits, treating physicians received printouts of symptoms. More patients who used Symptom Tracking and Reporting reported better quality of life (QoL) than those who used routine care; Additionally [6], they were more likely to survive and less likely to visit the emergency room.

In order to maintain a good quality of life throughout the course of any disease, effective pain management necessitates tailoring treatment to each individual patient. Bone pain brought on by cancer has multiple causes; As a result, different approaches to pain relief may be needed for various pain stages and types.

Discussion

Background pain is a dull, constant pain that gets worse as the disease progresses and is typically well managed with standard painkillers. Breakthrough pain, on the other hand, is a brief and severe exacerbation of pain that can be idiopathic or caused by specific actions. It is intermittent, starts suddenly, and lasts only a short time, making it difficult to treat. Therapeutic objectives for pain management and SRE prevention are distinct [7]. The short-term objective is to reduce pain at rest and while moving, while the long-term objective is to stop pain from getting worse and SREs. The objective ought to be to delay the onset of pain and SREs in patients without bone pain. Patients' quality of life (QoL) should rise as a result of these approaches taken together, allowing them to live as normally as possible. A three-step "analgesic ladder" approach is suggested in the World Health Organization (WHO) guidelines for managing pain caused by cancer. Non-opioid analgesics are used to treat mild pain. Mild opioids should be used if pain persists or gets worse, and strong opioids should be used if pain gets worse or stays the same. It is important to administer all treatments promptly and frequently.

Conclusion

To alleviate the pain caused by bone metastasis, the European Society for Medical Oncology (ESMO) recommends radiotherapy, bone-targeted agents (BTAs), such as bisphosphonates and the RANK ligand inhibitor denosumab, as well as radiopharmaceuticals. In certain situations involving spinal cord compression or bone stabilization, surgery may be necessary. Percutaneous vertebroplasty may be an option if conventional radiotherapy and chemotherapy prove ineffective, such as for spinal metastases, vertebral fractures, and/or spinal instability. When used alone or in conjunction with radiotherapy, transarterial embolization, and 125I-seed implantation, it improves pain and quality of life. As a result, the National Institute for Health and Care Excellence advises considering vertebroplasty to reduce pain and disability in such situations. In addition, microwave ablation and high-intensity focused ultrasound have recently been developed as options for the palliative treatment of painful bone metastases. Radiotherapy is the treatment of choice for localized metastatic bone pain, along with opioids [30]. It provides effective pain relief. There is evidence to suggest that low-dose, short-course radiotherapy regimens may be just as effective as long-term, high-dose regimens. When assessing a patient's overall quality of life (QoL), it is necessary to take into account a number of additional aspects, such as the frequency with which they visit the hospital and the tolerability of their treatment. Although a complete response may take several months, and some patients never experience effective relief, approximately half of those receiving radiotherapy for pain experience benefits within one and a half weeks. However, a systematic review of conventional palliative radiotherapy administered in a single fraction revealed that compared to lower doses, higher doses produced statistically superior pain response rates, indicating that some patients may benefit from higher doses. Reports of a "pain flare," or temporary worsening of pain at the treated site, are potential drawbacks of radiotherapy. Additionally, it may not be ideal for patients who have widespread pain that is difficult to localize in such cases, systemic agents like bisphosphonates can be effective alternatives.

References

1. Fletcher CDM, Bridge JA, Hogendoorn P, Mertens F (2013) WHO Classification of Tumours of Soft Tissue and Bone. IARC, Lyon 4.
2. Hasegawa T, Matsuno Y, Shimoda T, Hirohashi S, Hirose T, et al. (1998) Frequent expression of bcl-2 protein in solitary fibrous tumors. Jpn J Clin Oncol 28: 86-91.
3. England DM, Hochholzer L, McCarthy MJ (1989) Localized benign and malignant fibrous tumors of the pleura. A clinicopathologic review of 223 cases. Am J Surg Pathol 13: 640-658?
4. Vallat-Decouvelaere AV, Dry SM, Fletcher CD (1998) Atypical and malignant solitary fibrous tumors in extrathoracic locations: evidence of their comparability to intra-thoracic tumors. Am J Surg Pathol 22:1501-1511?
5. Babar Kayani, Aadhar Sharma, Mathew D Sewell, Johnson Platinum, Andre Olivier, et al. (2018) A Review of the Surgical Management of Extrathoracic Solitary Fibrous Tumors. Am J Clin Oncol (7): 687-694?
6. Park MS, Patel SR, Ludwig JA (2011) Activity of temozolomide and bevacizumab in the treatment of locally advanced, recurrent, and metastatic hemangiopericytoma and malignant solitary fibrous tumor. Cancer 117: 4939-4947.
7. Roughley PJ, Mort JS (2014) the role of aggrecan in normal and osteoarthritic cartilage. J Exp Orthop 1: 8.