Cancer Pain Syndromes

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KEYWORDS

• Cancer pain • Cancer pain syndromes • Bone pain • Cancer-related syndrome
• Cancer-related neuropathic pain • Mucositis
• Chemotherapy-induced peripheral neuropathy • Malignant bowel obstruction

KEY POINTS

- Cancer pain syndromes are defined by the relationship to the tumor, the inferred pathophysiology of the pain, and pain characteristics such as temporal features and quality of pain.
- Most cancer pain syndromes are related directly to the tumor and the most common types are bone pain syndromes and neuropathic pain syndromes.
- All types of cancer therapy may be associated with the development of chronic pain syndromes.

INTRODUCTION

Cancer pain is prevalent and heterogeneous,[1] and effective treatment begins with assessment (see Regina M. Fink and Jeannine M. Brants' article, "Complex Cancer Pain Assessment," in this issue). Assessment, in turn, must characterize the symptom, clarify the etiology of the pain, and identify the syndrome. Syndrome identification can direct the diagnostic evaluation to specific etiologies, clarify the prognosis for the pain or the disease itself, and guide therapeutic interventions. The prompt and efficient evaluation and treatment of cancer pain, therefore, requires an appreciation of well-described pain syndromes. These syndromes can be broadly divided into those associated with acute pain—pain with a proximate onset and a duration typically anticipated to be no longer than a few weeks—and those associated with chronic pain.

ACUTE PAIN SYNDROMES

Acute pain syndromes may be related directly to the cancer or to antineoplastic therapy, or to diagnostic or therapeutic interventions. The latter etiologies far are more likely to be the cause of acute pain syndromes than chronic pain syndromes.

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Acute Pain Syndromes Directly Related to the Cancer

When an acute pain syndrome is directly related to the tumor, assessment may lead to a change in primary treatment. Syndromes are identified by the context and pain characteristics.

Pathologic fracture

Pathologic fracture is most likely to occur in patients with breast, lung, or prostate cancer and in patients with multiple myeloma. The diagnosis is usually straightforward and is suggested by the sudden onset of focal aching pain. After radiography confirms the diagnosis, the treatment strategy often combines analgesics with selected surgical, radiation-based, interventional pain, and pharmacologic therapies that aim to augment pain control, restore function, and prevent further bone complications (see also Nicholas Figura and colleagues' article, "Mechanisms of and Adjuvants for Bone Pain," and Ron Shiloh and Monica Krishnan's article, "Radiation for Treatment of Painful Bone Metastases," in this issue).[2]

Obstruction or perforation of a hollow viscus

The characteristics of the pain from obstruction or perforation of a hollow viscus by a tumor mass and its associated features vary with the site (eg, bile duct, ureter, intestine, or bowel) and pathology, and the constellation of symptoms and signs usually pose little challenge in diagnosis. For example, the patient with gastric cancer who develops epigastric pain that worsens over days and is associated with early satiety and postprandial vomiting may be quickly recognized as having an evolving gastric outlet obstruction. This diagnosis, once confirmed, may suggest the usefulness of stenting in combination with symptom control therapies.[3] Syndrome identification may encourage earlier intervention and increase the likelihood of a favorable outcome.

Intratumoral hemorrhage

Hemorrhage into a tumor mass typically presents with acute pain; imaging confirms the diagnosis. Bleeding may become life threatening and syndrome recognition may expedite treatment with transfusions and interventions to stem bleeding. For example, the patient with hepatocellular carcinoma who experiences the sudden onset of severe right upper quadrant pain that worsens with inspiration and is associated with local tenderness may be considered presumptively to have an intratumoral hemorrhage, and is at risk for a life-threatening event; early effective intervention may avert a catastrophic outcome, as well as provide symptom relief.[4]

Superior vena cava obstruction

Superior vena cava obstruction from primary or metastatic tumors in the mediastinum usually presents with dyspnea, facial and neck swelling, and dilated neck and chest wall veins. In some cases, however, acute neck pain or headache is a prominent symptom.[5] If effectively treated with vascular stenting or radiation therapy, the pain quickly resolves.

Pain owing to acute thrombosis

Cancer frequently produces a prothrombotic state and deep vein thrombosis is a common complication.[6] Acute thrombosis usually is accompanied by pain. When an extremity is affected, pain and swelling suggest the diagnosis. Given the high prevalence of these disorders, the onset of acute pain in an extremity often suggests a diagnostic evaluation for venous occlusion, even if associated with minimal swelling.