

## **Oncologic Emergencies**

Cancer patients and cancer survivors are at risk for several life-threatening conditions. Oncologic Emergencies represent a wide variety of disorders that can occur at any time during the course of a malignancy, from an initial presenting manifestation in someone with an undiagnosed cancer, to end-stage incurable metastatic disease. Prompt identification and intervention of these emergencies can prolong survival and improve quality of life, even in the setting of terminal illness. Hospitalists, who are dedicated, in-patient physicians who work exclusively in a hospital, are particularly exposed to these conditions. Early recognition, understandings of their pathophysiology, as well as knowledge of the methods for their prompt assessment and treatment are key elements to ensure the possible best outcomes. Emergent conditions can also arise after a malignancy has been in remission for many years, even decades, therefore clinicians must be aware of any prior history of cancer and the therapies received. Oncologic emergencies include conditions caused by the cancer itself or side effects of therapy. Many of these situations may be prevented or treated effectively if they are recognized promptly and are treated urgently. We have chosen to categorize these emergencies as metabolic, infectious, mechanical and drug-related to highlight their lack of disease specificity and to facilitate their recognition during the assessment of the patient. Many of these emergencies are imminently life threatening.

**Objectives:** To provide an up-to-date review of current literature on the pathophysiology, diagnosis, and management of eight key malignancy-related complications encountered more frequently by Hospitalists at a Solid-Tumors Inpatient Service of a major cancer center. These are: metabolic emergencies (hypercalcemia, hyponatremia and tumor lysis syndrome), infectious (neutropenic fevers), mechanical (malignant spinal cord compression, superior vena cava syndrome, malignant pericardial effusion), and emergencies secondary to antineoplastic therapies.

**Data Synthesis:** Malignancy-related complications demand increased attention from hospitalists and primary care practitioners in general due to their frequency and increasing cancer prevalence. Hospitalists are physicians dedicated to the delivery of comprehensive medical care to hospitalized patients. Although such complications portend a poor prognosis, proper acute management can improve short-term outcomes by facilitating either definitive care of the underlying malignancy or the institution of appropriate palliative measures.

**Conclusions:** Knowledge of malignancy-induced complications in cancer patients and cancer survivors expedites the ability of the hospitalist to properly manage them. Eight complications commonly requiring emergency management are addressed in this review. Specifically, hypercalcemia requires aggressive intravenous hydration and a bisphosphonate. Hyponatremia entails a rapid and accurate assessment of the patient's volume and neurological status so appropriate treatment strategies can be promptly implemented. Acute tumor lysis syndrome necessitates intravenous hydration, rasburicase, and management of associated electrolyte disturbances. Neutropenic fevers mandates risk stratification and rapid initiation of empiric antibiotic therapy. Malignant spinal cord compression demands immediate spinal imaging, glucocorticoids, and either surgery or radiation. Superior vena cava syndrome may warrant radiation, chemotherapy, vascular stenting, or surgical resection. Malignant pericardial effusion may require emergency pericardiocentesis if cardiac tamponade develops. Drug-related emergencies urge knowledge of the medications, their mechanism of action and their side effects profile.