Background: Tumor lysis syndrome (TLS) is a potentially fatal complication in patients with large, rapidly proliferating tumor cell cancers that may occur after chemotherapy. Patients with TLS are complicated to treat and often have an unpredictable trajectory.

Objectives: The purpose of this article is to report two cases with unusual clinical manifestations and unexpected outcomes during cancer treatment and to share best practices for this situation.

Methods: The authors described details from two unusual cases and outlined lessons learned. The authors described a newly developed clinical order set (protocol) to support optimal care for patients at risk for TLS.

Findings: Implementing best practices, the order set prompts early identification of TLS risk and provides step-by-step guidance to eliminate or control TLS.

Diagnosis

TLS is diagnosed by laboratory tests and clinical signs and symptoms. Some healthcare teams follow the Cairo-Bishop protocol for diagnosis and management of TLS. Laboratory tests include serum uric acid, potassium, calcium, phosphorus, and creatinine, as well as serum lactate dehydrogenase (LDH) and alkaline phosphatase. Clinical signs and symptoms include fever, nausea, vomiting, diarrhea, and hypocalcemia. An electrocardiogram (ECG) may show the typical findings of TLS, such as hyperkalemia, hypocalcemia, and hyperuricemia. The ECG may also show arrhythmias, such as atrial fibrillation, atrial flutter, or ventricular tachycardia.

Conclusion

TLS is a potentially lethal complication of cancer treatment. Early recognition and prompt intervention can minimize the risk of complications and improve patient outcomes. The development and implementation of a clinical order set can help ensure that patients at risk for TLS receive appropriate care and are monitored closely for signs of TLS.