Lenalidomide is an immunomodulatory drug that has shown preliminary activity in the treatment of chronic lymphocytic leukemia (CLL). Much is known about the safety profile of lenalidomide from experience in other hematologic malignancies, such as myelodysplastic syndromes and multiple myeloma. In addition to the known adverse effects associated with lenalidomide (e.g., myelosuppression, rash, fatigue), some unique effects (e.g., tumor flare reactions, tumor lysis syndrome) have arisen during clinical studies of CLL. Typical signs of tumor flare reactions include early onset of painful enlargement of the lymph nodes or spleen, with or without low-grade fever, rash, and bone pain. Management may require nonsteroidal anti-inflammatory drugs or a short course of corticosteroids. Dose delays or reductions usually are not required for tumor flare reactions. Signs of tumor lysis syndrome may include shortness of breath, peripheral edema, generalized weakness, sweating, fever, and tachycardia. Untreated tumor lysis syndrome can result in renal impairment and congestive heart failure. Careful monitoring and appropriate management of treatment-related side effects can help ensure that patients with CLL achieve maximum therapeutic benefit from lenalidomide therapy.

At a Glance

- Ongoing clinical trials continue to investigate the efficacy and disease-specific side effects of lenalidomide.
- The use of lenalidomide in chronic lymphocytic leukemia (CLL) may result in tumor flare reaction and tumor lysis syndrome, which can be managed with appropriate prophylaxis, monitoring, and treatment.
- With proper monitoring, particularly in the first cycles of therapy, lenalidomide can be administered safely in CLL, resulting in minimal dose interruption or reductions.