Management of Patients With Primary Central Nervous System Lymphoma Treated With High-Dose Methotrexate

Elizabeth Warnick, RN, MSN, CRNP, and Danielle Auger, MPA, PA-C

Primary central nervous system lymphoma (PCNSL) is a rare, extranodal form of non-Hodgkin lymphoma that most commonly presents with neurologic changes. Comprehensive workup to diagnose PCNSL and rule out nodal non-Hodgkin lymphoma is critical to the development of an appropriate plan for therapy. Past PCNSL treatments have included whole-brain radiation or steroids, but high-dose methotrexate (MTX) has emerged as initial therapy. Although high-dose MTX is well tolerated, special considerations must be taken to administer the drug safely. Specific interventions include aggressive IV hydration with sodium bicarbonate fluids, monitoring blood chemistries, and the administration of leucovorin rescue. Nurses should evaluate and monitor patients closely during treatment to ensure safety and decrease drug toxicity.

At a Glance
- Primary central nervous system lymphoma (PCNSL) is a rare, fast-growing form of non-Hodgkin lymphoma that presents with acute neurologic status changes.
- High-dose methotrexate has emerged as the primary therapy for immunocompetent patients with PCNSL.
- Understanding the principles of methotrexate metabolism and specific treatment considerations will ensure patient safety.

Elizabeth Warnick, RN, MSN, CRNP, is a nurse practitioner in the Medical Center Clinic at the West Penn Allegheny Oncology Network in Kittanning, PA; and Danielle Auger, MPA, PA-C, is a physician assistant at the Dana-Farber Cancer Institute in Boston, MA. At the time this article was written, Auger was a physician assistant at Tufts Medical Center in Boston. Warnick is a member of the speakers bureau for Millennium Pharmaceuticals, Inc. (Submitted August 2008. Accepted for publication September 2, 2008.)

Digital Object Identifier:10.1188/09.CJON.177-180