Describing Symptom Burden and Functional Status at the Diagnosis of Leptomeningeal Metastasis

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Cancer brings physical and psychosocial challenges to patients. However, when cancer metastasizes to the leptomeninges and cerebrospinal fluid (CSF), a unique symptom burden arises that is further complicated by the site of primary cancer, sites of metastasis, cumulative treatment toxicities, and neurologic symptom burden because of tumor involvement in the neuroaxis. Patients with leptomeningeal metastasis (LM) typically undergo multiple treatment regimens and may have multiple metastatic sites. In addition, multifocal symptoms frequently occur because of the involvement of unrelated sites along the neuroaxis (Olson, Chernik, & Posner, 1974), creating an unusual neurologic burden that may include cognitive and other neurologic symptoms, such as radicular pain, weakness, or cauda equina syndrome.

Neurologic Symptoms of Leptomeningeal Metastasis

The presence of multifocal neurologic symptoms is a hallmark of LM and frequently leads to testing and diagnosis (Olson et al., 1974). Neurologic symptoms may be referable to the cerebrum, cranial nerves, meninges, or spinal nerve roots. However, many patients experience symptoms in more than one of these areas. For example, patients have reported cerebral symptoms in combination with cranial nerve symptoms (Chamberlain & Kormanik, 1997), as well as symptoms referable to the cerebrum, cranial nerves, and spinal nerves in combination (Duan, Li, & Sun, 2014). Frequently, symptoms may be identified in two or three locations along the neuroaxis (Duan et al., 2014; Wasserstrom, Glass, & Posner, 1982). Recognizing neurologic signs or symptoms related to the involvement of multiple sites along the neuroaxis is key to the diagnosis of LM.