

# Central Nervous System Metastases

Parenchymal brain metastases (BM) and leptomeningeal metastases (LM) are two types of Central Nervous System (CNS) metastases that are notoriously difficult to treat and usually decrease patient's quality of life.<sup>1-3</sup>

**BRAIN METASTASES (BM)** are a **common complication of advanced cancer** and form when primary tumor cells travel through the blood and establish a tumor in the brain.<sup>1</sup>

**Lung cancer** is the most common type of cancer to spread to the brain.<sup>4</sup>



**BM are especially hard to treat;** radiation therapy, radiosurgery, surgical resection, and steroids can be used to manage brain metastases.<sup>4,5</sup>

**LEPTOMENINGEAL METASTASES (LM)** are a rare complication of cancer in which the disease spreads to the meninges **which are coverings around the brain and the spinal cord.**<sup>3</sup>

**LM affect approximately 5%** of patients with non-small cell lung cancer.<sup>6,7</sup>

**LM are complicated** and difficult to treat. Current treatment options include radiation therapy and intrathecal chemotherapy.<sup>3</sup>



**Symptoms of BM<sup>4</sup> and LM<sup>3</sup> can include:**

**Nausea**



**Difficulty thinking**



**Double vision**



**Headaches**



**Difficulty speaking or swallowing**



**Pain**



**Seizures**



**Weakness and/or lack of coordination in your arms and legs**



References: 1. Preusser M, et al. Brain metastases: Pathobiology and Emerging Targeted Therapies. *Acta Neuropathol.* 2012;123:205-222. 2. Ali A, et al. Survival of patients with non-small-cell lung cancer after a diagnosis of brain metastases. *Curr Oncol.* 2013;20(4):e300-e306. 3. Leal T, et al. Leptomeningeal Metastasis: Challenges in Diagnosis and Treatment. *Curr Cancer Ther Rev.* 2011 Nov;7(4):319-327. 4. National Institutes of Health. Adult Central Nervous System Tumors Treatment—Health Professional Version (PDQ®) Metastatic Brain Tumors. 5. Sinha R, et al. The evolving clinical management of cerebral metastases. *Eur J Surg Oncol* 2017;43(7):1173-1185. 6. Chamberlain MC, et al. Carcinoma Meningitis Secondary to Non-small Cell Lung Cancer: Combined Modality Therapy. *Arch Neurol.* 1998;55:506-512. 7. Kuiper JL, et al. Treatment and Survival of Patients with EGFR-Mutat-ed Non-Small Cell Lung Cancer and Leptomeningeal Metastasis: A Retrospective Cohort Analysis. *Lung Cancer.* 2015;89:255-261.