Oncogene-addicted non-small cell lung cancer

Oncogene-addicted (EGFR- and ALK-positive) non-small cell lung cancers (NSCLCs), are characterized by a unique metastatic neurotropism resulting in a particularly high incidence of brain metastases. The goal of optimal brain metastases management is to improve both overall survival and quality of life, with a focus on neurocognitive function preservation. Neurosurgery is offered to patients presenting with limited intracranial tumor burden located in surgically accessible un-eloquent regions of the brain, whereas stereotactic radiosurgery represents the preferred radiotherapy option for patients not amenable to surgery. Whole brain radiotherapy, owing to its neurocognitive sequelae, should be reserved for patients with multiple lesions. EGFR and ALK tyrosine kinase inhibitors (TKIs) provide significantly superior systemic response rates and progression-free survival compared to standard chemotherapy in the molecularly defined NSCLC subpopulations. An apparent intracranial activity of new-generation TKIs triggered the discussion on their role in brain metastases in lieu of local therapies. The aim of this review is to summarize the current therapeutic landscape of brain metastases management in NSCLC, with a particular focus on EGFR-mutated and ALK-rearranged NSCLC subtypes [1].

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Wrona A, Dziadziuszko R, Jassem J. Management of brain metastases in non-small cell lung cancer in the era of tyrosine kinase inhibitors. Cancer Treat Rev. 2018 Oct 21;71:59-67. doi: 10.1016/j.ctrv.2018.10.011. [Epub ahead of print] Review. PubMed PMID: 30366200.