Non-Small cell lung cancer brain metastases

- High-Dose Aumolertinib for Untreated EGFR-Variant Non-Small Cell Lung Cancer With Brain Metastases: The ACHIEVE Phase 2 Nonrandomized Clinical Trial
- Failure patterns analysis of three-dimensional radiotherapy for stage IV non-small cell lung cancer primary tumours
- Cesium-131 collagen tile brachytherapy for salvage of recurrent intracranial metastases
- Matching-Adjusted Indirect Comparison of Sotorasib Versus Adagrasib in Previously Treated Advanced/Metastatic Non-Small Cell Lung Cancer Harboring KRAS G12C Mutation
- Genomic profiling and prognostic factors of leptomeningeal metastasis in EGFR-mutant NSCLC after resistant to third-generation EGFR-tyrosine kinase inhibitors
- Independent Prognostic Factors of Survival in Elderly Patients Undergoing Surgery for Non-small Cell Lung Cancer Brain Metastases: Assessing Surgical Eligibility
- Visceral crisis in a patient with non-small cell lung cancer and ROS1::SDC4 fusion: intrinsic resistance to entrectinib via L2026M mutation-a case report
- Corrigendum to "TP53 and EGFR amplification are negative predictors of overall survival in patients diagnosed with non-small cell lung cancer with brain metastases" [Heliyon Volume 10, Issue 16, August 2024, Article e36532]

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see also Lung cancer brain metastases.

Non-small-cell lung cancer (NSCLC) can metastasize to various organs in the body, including the brain. When NSCLC spreads to the brain, it is referred to as intracranial metastases or brain metastases.

Classification

The classification of non-small cell lung cancer (NSCLC) brain metastases involves assessing various factors to guide treatment decisions. The classification may consider the number of brain metastases, their size, location, and the overall status of the patient. Here are some common aspects considered in the classification:

Number of Brain Metastases:

Solitary Brain Metastasis: Only one tumor is present in the brain. Multiple Brain Metastases: More than one tumor is observed in the brain. Size of Brain Metastases:

Small Lesions: Typically defined as lesions less than 3 centimeters in diameter. Large Lesions: Lesions greater than 3 centimeters in diameter. Location of Brain Metastases:

Supratentorial: Tumors are located above the tentorium cerebelli (the structure that separates the cerebrum from the cerebellum). Infratentorial: Tumors are located below the tentorium cerebelli. Extent of Brain Involvement:

Focal Disease: Limited involvement in specific areas of the brain. Multifocal Disease: Spread across different regions of the brain. Performance Status of the Patient:

The patient's overall health and functional status are crucial in determining the appropriate treatment plan. Presence of Symptoms:

The presence and severity of symptoms, such as headaches, seizures, neurological deficits, etc., are considered. Extracranial Disease Status:

The extent and control of the primary lung cancer and any other metastatic sites outside the brain are important considerations. The classification of NSCLC brain metastases helps oncologists tailor treatment strategies. Treatment options may include surgery, stereotactic radiosurgery (SRS), whole-brain radiation therapy (WBRT), systemic therapies (chemotherapy, targeted therapy, immunotherapy), or a combination of these, depending on the specific characteristics of the metastases and the patient's overall health. The goal is to balance effectively treating the brain metastases while minimizing side effects and maintaining the patient's quality of life.

EGFR-Mutant Non-Small-Cell Lung Cancer Intracranial Metastases

Symptoms

: The presence of brain metastases can lead to various neurological symptoms, which may include headaches, seizures, weakness or numbness in the limbs, difficulty with coordination, changes in mood or personality, and problems with memory and concentration.

Diagnosis: Diagnosis of intracranial metastases typically involves brain imaging studies such as MRI (Magnetic Resonance Imaging) or CT (Computed Tomography) scans. These imaging studies can reveal the size, number, and location of brain metastases.

Treatment Options: The management of NSCLC intracranial metastases can involve several approaches:

Surgery: In some cases, surgical removal of isolated brain metastases may be considered, especially if they are causing significant symptoms and are accessible for resection.

Radiation Therapy: Whole-brain radiation therapy (WBRT) or stereotactic radiosurgery (SRS) are common treatments for brain metastases. WBRT is used to treat multiple metastases throughout the brain, while SRS is a precise technique used for targeting and treating individual or a few metastases.

Chemotherapy and Targeted Therapy: Systemic treatments such as chemotherapy and targeted therapy may also be considered to manage both the intracranial metastases and the primary lung cancer.

Immunotherapy: Immune checkpoint inhibitors, which have shown efficacy in treating advanced NSCLC, may also have a role in managing brain metastases, particularly if the tumors express specific biomarkers.

Prognosis: The prognosis for NSCLC patients with brain metastases depends on various factors, including the extent of metastatic involvement, the response to treatment, and the overall health of

the patient. Survival rates for patients with brain metastases are generally lower than those without brain involvement.

Monitoring: Patients with NSCLC and brain metastases require regular monitoring and follow-up imaging to assess the status of the brain lesions and to determine the effectiveness of treatment.

It's important for individuals with NSCLC to work closely with their healthcare team to develop a personalized treatment plan that considers the extent of their disease, overall health, and individual goals and preferences. The management of NSCLC intracranial metastases often involves a multidisciplinary approach, with input from oncologists, radiation oncologists, neurosurgeons, and other specialists to provide the best possible care for the patient.

EGFR-Mutant Non-Small Cell Lung Cancer intracranial metastases

see also Non-Small cell lung cancer leptomeningeal metastases

Brain metastases are a major problem in non-small cell lung cancer (NSCLC).

The concept of “oligometastases” has emerged as a basis on which to identify patients with stage IV Non-Small-cell lung cancer (NSCLC) who might be most amenable to curative treatment. Limited data have been available regarding the survival of patients with node-negative oligometastatic NSCLC.

Epidemiology

Non-Small cell lung cancer intracranial metastases epidemiology

Diagnosis

Preoperative assessment of epidermal growth factor receptor (EGFR) status, response to EGFR-tyrosine kinase inhibitors (TKI), and development of T790M mutation in non-small cell lung cancer (NSCLC) patients with brain metastases (BM) is essential for clinical decision-making, while previous studies were only based on the whole BM

Treatment

see Non-Small cell lung cancer intracranial metastases treatment.

Outcome

see Non-Small cell lung cancer intracranial metastases outcome.

Case series

see Non-Small cell lung cancer intracranial metastases case series.

Anaplastic lymphoma kinase non-Small-cell lung cancer intracranial metastases

Anaplastic lymphoma kinase non-Small-cell lung cancer intracranial metastases