Melanoma brain metastases treatment

- Novel fusion superkine, IL-24S/IL-15, enhances immunotherapy of brain cancer
- Poor Diagnostic Performance of the Melanin-Binding Tracer [18 F]MEL050 in Human Melanoma Indicates Biological Heterogeneity
- Evaluation of primary venous thromboembolism prophylaxis in hospitalized patients with primary brain tumors or secondary brain metastases
- Management outcomes for biopsy-proven radiation necrosis in patients with brain metastases in the era of immune-checkpoint blockade
- Precision medicine approaches to CNS metastatic disease
- Tumor Microenvironment in Melanoma Brain Metastasis: A New Potential Target?
- T lymphocyte heterogeneity in NSCLC: implications for biomarker development and therapeutic innovation
- POLARIS: encorafenib plus binimetinib for people with BRAF V600-mutant melanoma with brain metastasis

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The treatment of melanoma brain metastases involves a multidisciplinary approach that may include surgery, radiation therapy, targeted therapies, immunotherapy, and, in some cases, systemic treatments. The specific treatment plan depends on factors such as the number and size of the brain metastases, the patient's overall health, and the presence of other metastases outside the brain. Here are some common approaches:

Surgery: see brain metastases surgery

Resection: Surgical removal of a single or a few large brain metastases may be considered if the tumors are accessible and if the patient's overall health allows for surgery. Radiation Therapy:

Stereotactic Radiosurgery (SRS): This is a precise form of radiation therapy that delivers a highly focused dose of radiation to the brain metastases while minimizing exposure to surrounding healthy tissue. Whole-Brain Radiation Therapy (WBRT): Used to treat multiple brain metastases or when stereotactic radiosurgery is not suitable. WBRT delivers lower doses of radiation to the entire brain. Targeted Therapies:

BRAF Inhibitors: If the melanoma has a specific mutation known as BRAF V600, targeted therapies such as BRAF inhibitors (e.g., vemurafenib, dabrafenib) combined with MEK inhibitors (e.g., trametinib) may be effective. Other Molecular Targeted Therapies: Depending on the molecular profile of the tumor, other targeted therapies may be considered. Immunotherapy:

Immune Checkpoint Inhibitors: Drugs such as pembrolizumab, nivolumab, and ipilimumab have shown effectiveness in treating melanoma by enhancing the body's immune response against cancer cells. Systemic Treatments:

Chemotherapy: While traditional chemotherapy has limited effectiveness against melanoma, it may still be considered in certain cases. Novel Therapies: Ongoing research is exploring new drugs and combinations of treatments to improve outcomes for patients with melanoma brain metastases. Clinical Trials:

Participation in clinical trials may offer access to innovative treatments and therapies that are still in the experimental stage. It's important to note that the treatment plan is often individualized based on

the patient's specific circumstances. Additionally, managing symptoms, providing supportive care, and addressing the patient's overall well-being are integral parts of the treatment approach.

Regular follow-up care and monitoring are crucial to assess treatment response, manage potential side effects, and detect any recurrence or new metastases. Patients with melanoma brain metastases should work closely with a multidisciplinary team of healthcare professionals, including oncologists, neurosurgeons, and radiation oncologists, to determine the most appropriate and effective treatment strategy for their specific situation.

The current melanoma brain metastases treatment utilizes chemotherapy and targeted therapy. Emerging approaches emphasize biomarkers and joint treatments. Further exploration toward preliminary identification, the timing of therapies, and methods to ameliorate adverse treatment effects are needed to advance MBM patient care [1)]

Until recently, therapeutic strategies for melanoma brain metastases focused on local treatments: surgery, whole-brain radiation therapy, and stereotactic radiosurgery. Historically, systemic therapy had limited utility [2)].

Melanoma brain metastases surgery

Melanoma brain metastases surgery.

Melanoma brain metastases radiosurgery

Melanoma brain metastases radiosurgery.

Melanoma brain metastases immunotherapy

Melanoma brain metastases immunotherapy

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Diaz MJ, Mark I, Rodriguez D, Gelman B, Tran JT, Kleinberg G, Levin A, Beneke A, Root KT, Tran AXV, Lucke-Wold B. Melanoma Brain Metastases: A Systematic Review of Opportunities for Earlier Detection, Diagnosis, and Treatment. Life (Basel). 2023 Mar 19;13(3):828. doi: 10.3390/life13030828. PMID: 36983983; PMCID: PMC10053844.
2)
Venur VA, Funchain P, Kotecha R, Chao ST, Ahluwalia MS. Changing Treatment Paradigms for Brain Metastases From Melanoma-Part 2: When and How to Use the New Systemic Agents. Oncology (Williston Park). 2017 Sep 15;31(9):659-67. Review. PubMed PMID: 29071693.