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Therapeutic Approaches that are Based on Glioma Genetics

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DESCRIPTION

Neuro-Oncology is a multidisciplinary field that includes basic, applied, and clinical research in all areas of cancer and the central nervous system research. Neurologists, neurosurgeons, radiotherapists, medical oncologists, neuropathologists, neurodiagnosticians, and laboratory based oncologists carrying out pertinent research can communicate with one another through this platform. Neuro-Oncology does not aim to separate the field rather; it aims to unite the efforts of a number of different fields into a single publication by utilizing a format that brings these various interests together. Cancer of the central nervous system necessitates multidisciplinary approaches more than any other type of oncology. Neuro-Oncology is a journal that publishes current, high-quality, relevant research in all aspects of neuro-oncology, eliminating the need to search through dozens of cell biology, pathology, laboratory, and clinical endeavors journals. The Neuro-Oncology Branch (NOB) was established in 2000 as a trans-institutional initiative. The National Institute of Neurological Disorders and Stroke (NINDS) and the National Cancer Institute (NCI) both provide funding for the branch. Our goal is to create novel diagnostic and therapeutic tools for patients with primary tumors of the central nervous system. The traditional, largely empirical approach to cancer drug development, which has dominated oncology for three decades, is based on the belief that it will likely only result in small, incremental progress in the treatment of patients with malignant gliomas. This is the foundation of the NOB's strategic direction. Therapeutic approaches that are based on a greater understanding of glioma genetics and biology are more likely to result in meaningful improvements in patient outcomes. These approaches can then be applied to individualized, targeted treatments for patients based on their specific tumor characteristics. Additionally, instruments for measuring the disease's effect on patient function ought to be incorporated into clinical investigations. Measures of cognitive function, quality of life, and burden of symptoms are frequently included in this. Gliomas of the brainstem and pons, glioblastoma multi-form, and high-grade (highly anaplastic) astrocytoma/oligodendroglia are among the worst types of malignant brain cancer. Depending on the patient's condition, immune function, treatments used, and the type of malignant brain neoplasm, survival with current radiation and chemotherapy treatments may extend that time from around a year to a year and a half, possibly two, in these cases. Untreated survival is typically limited to a few months. Although surgery may be curative in some instances, in general, malignant brain cancers, particularly highly malignant ones, have a propensity to regenerate and quickly come out of remission. The objective is to remove as much of the tumor mass (cells) and tumor margin as possible without jeopardizing vital functions or other crucial cognitive abilities in such instances. Intracranial metastases come in three varieties brain, dual, and leptomeningeal metastases are all types of metastases. Any part of the brain can be affected by a single or multiple brain metastases. Haematogenous spread or direct invasion from adjacent bones are the most common methods of metastasis to dual structures. Dural metastases have the potential to invade the brain beneath them, resulting in focal edema and other neurologic symptoms. Because they are located in the cortical area, these processes typically trigger seizures early in the course. In cancer patients, metastasis to the leptomeninges is a rare but well-known clinical presentation. Breast, lung, or melanoma primary tumors are the most common causes of leptomeningeal metastasis.

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CONFLICT OF INTEREST

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