



Battling Glioblastoma Multiforme: A Fierce Fight against a Relentless Foe

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DESCRIPTION

Glioblastoma multiforme (GBM) is a formidable adversary in the realm of cancer, striking fear into the hearts of patients and healthcare professionals alike. This aggressive brain cancer, often referred to as GBM, presents a multifaceted challenge that demands our unwavering attention, innovative research, and compassionate care. At its core, GBM is a malignant tumor that arises from glial cells, which provide structural support and nourishment to neurons in the brain. Its name, “multiforme,” aptly describes its unpredictable and diverse characteristics, making it particularly challenging to treat. GBM is notorious for infiltrating healthy brain tissue, rendering complete surgical removal almost impossible, and it is known for its rapid growth and high recurrence rates.

One of the most disheartening aspects of GBM is its prognosis. Despite advancements in medicine and our understanding of cancer, the average survival rate for GBM patients is dismally low, with most individuals living less than two years after diagnosis. This stark reality highlights the urgent need for continued research into more effective treatments and therapies. The treatment landscape for GBM is a complex terrain, involving a combination of surgery, radiation therapy, and chemotherapy. Surgery aims to remove as much of the tumor as possible without damaging critical brain functions. However, due to the infiltrative nature of GBM, complete removal is often unattainable, leaving microscopic cancer cells behind. This is where radiation therapy and chemotherapy come into play. Radiation therapy utilizes high-energy beams to target and destroy remaining cancer cells, while chemotherapy drugs are administered to target the tumor at a systemic level.

Despite these treatment approaches, GBM has a notorious tendency to re-emerge. The reason behind GBM’s resistance to treatment lies in its ability to adapt and develop resistance mechanisms, making it a resilient adversary. Researchers are actively exploring novel therapeutic strategies, including im-

munotherapies and targeted therapies, with the hope of improving outcomes and providing new options for patients. Immunotherapies, such as checkpoint inhibitors, have shown promise in treating other cancers and are now being investigated for their potential in GBM. These therapies work by unleashing the body’s immune system to recognize and attack cancer cells. While early results are encouraging, challenges like the blood-brain barrier, which limits the entry of drugs into the brain, must be overcome to maximize their effectiveness against GBM.

Targeted therapies, on the other hand, aim to disrupt specific molecular pathways that drive cancer growth. Identifying these key targets is a significant area of research, and several promising candidates are under investigation. Precision medicine, which tailors treatments to an individual’s unique genetic makeup, holds great potential for GBM patients, as it may lead to more effective and personalized therapies. In addition to innovative treatments, supportive care and the holistic well-being of GBM patients are paramount. Managing symptoms, alleviating pain, and addressing the emotional and psychological aspects of the disease are essential components of comprehensive care. Palliative care teams play a crucial role in enhancing the quality of life for patients facing this devastating diagnosis. The battle against GBM is not only waged in research laboratories and hospital rooms but also in the hearts and minds of patients, caregivers, and the broader community. Raising awareness about GBM and supporting organizations dedicated to brain cancer research can drive progress and inspire hope.

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CONFLICT OF INTEREST

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