Learn how to reduce diet and lifestyle risk factors for Glioblastoma Multiforme GBM Brain Cancer.

Be proactive - Don't continue to feed or stimulate cancer cell growth.

Glioblastoma Multiforme GBM Diet and Lifestyle Research Report

Keith Bishop
Clinical Nutritionist, B.Sc. Pharmacy

Glioblastoma Multiforme (GBM) Diet & Lifestyle

Aluminum

In a laboratory study aluminum caused inflammation of GBM cells.[1] Inflammation stimulates GBM cell growth. Additional information and how natural products decrease inflammation chemicals in GBM is found in other reports at www.NaturalCancerReports.com.

Blood concentrations of aluminum were significantly increased in patients with malignant gliomas compared to patients without brain cancer.[2]

Aluminum should be avoided. Common sources of aluminum include:

- Antiperspirants
- Soda pop cans
- Aluminum cookware
- Baking powder
- Bleached flour
- Processed cheese

Don't use antiperspirants or antiperspirant crystals from health food stores. Both may contain aluminum.

Underarm deodorants are ok to use so long as they don't have aluminum listed in the ingredients.

Acidic soda pop will dissolve the aluminum in soda pop cans. Add the cancer cell stimulating effect of sugar and you are adding two risk factors for Glioblastoma. God did not give us soda pop to drink. It's not natural. If you have GBM you should avoid soda pop.

Cooking acidic foods such as tomatoes may cause the aluminum to be dissolved into the foods. It is best to use stainless steel, cast iron or glass pots and pans to cook with.

Are you low or toxic in aluminum? Ask your alternative healthcare provider for a toxic metal urine test. I use Great Plains Laboratory to test for toxic metals and good minerals. http://www.greatplainslaboratory.com/home/eng/metals_urine.asp

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Department of Community and Environmental Medicine, Center for Occupational and Environmental Health, University of California-Irvine, Irvine, CA 92697-1820, USA. aghadimi@uci.edu

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Aluminum concentrations in serum of patients with intracranial tumors.
Philipov P, Tzatchev K. Department of Neurosurgery, Medical Academy, Sofia.

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Aspartame

Aspartame is an artificial sweetener known as NutraSweet®.

A metabolite of aspartame, diketopiperazine, contributes to the formation of tumors in the brain such as gliomas, medulloblastomas and meningiomas. Glial cells are the main source of tumors, which can be caused sweetener in the brain.[3]

When mice are fed aspartame they have a 17.7-32.8% increased amount of oxidative damage and a 25.6-31.6% decreased glutathione levels in the brain.[4] Both factors increase the risk of glioblastoma.

An early animal study revealed an exceedingly high incidence of brain tumors in aspartame-fed rats compared to no brain tumors in concurrent controls. Aspartame was introduced into US food and beverage markets several years prior to the sharp increase in brain tumor incidence and malignancy.[5] Most human medical studies are short term, often less than 6 year, evaluations and fail to show a link between aspartame consumption and glioblastoma.[6] [7]

Even though Aspartame does not contain calories it still increases blood glucose/sugar levels and increases the risk of diabetes.[8] Both of these health issues increase the risk of glioblastoma. Additional information about glucose, sugar and hyperglycemia is found in this research paper.

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Aspartame consumption in relation to childhood brain tumor risk: results from a case-control study. Gurney JG, Pogoda JM, et al.,
Department of Community Health, Saint Louis University School of Public Health, MO 63108-3342, USA.

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[8] Nutr Metab (Lond). 2012 Jun 14;9(1):58.
Interactive effects of neonatal exposure to monosodium glutamate and aspartame on glucose homeostasis. Collison KS, Makhoul NJ, et al, Diabetes Research Unit, Department Cell Biology, King Faisal Specialist Hospital & Research Centre, PO BOX 3354, Riyadh, 11211, Saudi Arabia.

Glioblastoma Multiforme (GBM) Diet & Lifestyle

Caffeine

In a large European population study researchers found coffee and tea consumption decreased the risk of glioblastoma.[9]

In glioblastoma cell cultures caffeine inhibited IP(3)R3-mediated Ca(2+) release and inhibited migration (metastasis). Caffeine greatly increased survival times in mice with glioblastoma transplanted tumors.[10]

Treatment of glioblastoma cells with caffeine in a laboratory test demonstrated that caffeine caused the cancer cells to pause in the early S phase of cell division and growth.[11]

Unless you have caffeine sensitivity, brew and drink organic strong coffee, up to espresso strength, four times daily, two cups in the morning, one after lunch and one midafternoon. If you are caffeine sensitive and have sleep problems consume 2-3 cups of strong coffee in the a.m. Coffee contains more caffeine than tea.

SPECIAL NOTE: *If you are taking Temodar (temozolomide / TMZ) and other chemotherapy drugs I would* ***NOT*** *consume high amounts of caffeine except tea.* Caffeine is one of the most potent activators of an antioxidant repair system called Nrf2. Inhibiting Nrf2 enhanced the effectiveness of temozolomide (TMZ) chemotherapy. [12]

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Copper

Copper is known cause of angiogenesis (new blood vessel formation) in cancer tumors including GBM.[13] Copper levels are higher in malignant neoplasms[14] and in patient with brain cancer.[15]

Laboratory experiments demonstrate that copper reduction inhibits GBM growth and invasiveness. This group of researchers gave 40 patients penicillamine injections to lower copper levels. Serum copper was effectively reduced by diet and penicillamine but this strategy did not improve survival in patients with GBM.[16]

Please ask for free additional information about how to do a simple $30 at home test to see if you are toxic in copper. Email keith@naturalcaresolution.com

Ask your alternative oriented healthcare provider for a toxic metal and mineral urine test.

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Glucose / Sugar / Hyperglycemia

GBM growth is stimulated by glucose and elevated blood glucose levels. Patients with normal blood glucose levels live longer than those with elevated blood glucose levels.[17] [18] [19]

A study in France found people who skipped meals several times per week had a 65% reduction in the risk of GBM.[20] Being able to skip meals may be a sign of good glucose control.

Researchers at Boston College believe that GBM is primarily a metabolic disease that can be managed through changes in metabolic environment. Normal brain cells can readily transition to ketone bodies (B-hydroxybutyrate) for energy when glucose/sugar is restricted. Malignant brain tumors are strongly dependent on glycolysis (glucose or sugar) for energy and do not thrive on ketones. Based on medical research in mice and humans these researchers propose glioblastoma treatment with calorie restriction and a ketogenic diet.[21]

Researchers in Italy used a ketogenic diet on a 65 year old woman following an incomplete surgical removal of glioblastoma multiforme tumor. Before the standard medical treatment the woman did a water-only fast and a restricted 4:1 (fat:carbohydrate + protein) ketogenic diet that delivered about 600 calories per day. The patient also did the restricted ketogenic diet during the standard medical treatment. Her diet was supplemented with vitamin and minerals. The doctors stopped dexamethasone during the course of treatment. After two months of treatment, the patient's body weight was reduced by 20%

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and no brain tumor tissue was detected with PET and MRI scans. Her blood glucose levels decreased and her urinary ketone levels increased. Sadly after going back to a normal diet her tumor returned within 10 weeks. Researchers believed the restricted calorie, ketogenic diet, helped as rapid regression of GBM is rare in older patients following incomplete surgical tumor removal and standard medical treatment.[22]

Boston College researchers place GBM tumors in laboratory mice and restricted their calorie intake. Calorie restriction significantly reduced the invasion of tumor into other parts of the brain. Calorie restriction also decreased the number of rapid growing tumor cells and the number of blood vessels to the tumors. Researchers state, *"CR (calorie restriction) can be effective in reducing malignant brain tumor growth and invasion."*[23]

The medical history of 191 patients with GBM, from 1999 to 2004 was evaluated. This was before the standard use of temozolomide. A mean glucose of less than 94 mg/dl increased survival time by 5.4 months compared to a mean glucose level greater than 137 mg/dl. Each increased blood glucose level progressively increased the risk of dying. These results were observed even after adjusting for dexamethasone, a known elevator of glucose.[24]

Persistent outpatient hyperglycemia (high blood sugar/glucose) was associated with decreased survival in patients undergoing surgical removal for malignant brain tumors. This concern and was independent of the degree of disability, tumor grade, diabetes, prolonged dexamethasone use, or subsequent treatment modalities. Authors state, *"Increased glucose control is warranted in this patient population and may contribute to improved outcomes in the treatment of malignant brain astrocytomas."* GBM is classified is an astrocytoma.[25]

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Researchers at University of California at San Francisco evaluated glucose withdrawal on GBM cells in the laboratory. Glucose withdrawal induced extensive apoptosis (cell death) in GBM cells but not affect normal brain cells. The researchers state, "*This study implicates glycolysis (using sugar for energy production) as a potentially efficient and selective target for glioblastoma multiforme treatment."*[26]

Ketogenic food information is available at http://www.naturalcancerreports.com/Brain-Cancer-Alternative-Treatments.html

School of Medicine, and The Johns Hopkins Neuro-oncology Surgical Outcomes Research Laboratory, Baltimore, Maryland, USA.

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X-Ray

X-ray, particularly in children treated with x-rays for lymphoblastic leukemia show a significantly elevated risk of developing GMB, often within 10 years after therapy.[27] [28]

Limiting X-Ray exposure to the brain may be a good idea. This includes dental x-rays.

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