

The KETOGENIC DIET

Perhaps one of the more promising recent diets used in the integrative treatment of cancer, and other pathologies, is the Ketogenic Diet.

The ketogenic diet is fast becoming one of the most promising adjuvant treatments for aggressive brain tumours such as gliomas, for which conventional therapy offers little. See some of the research on ketogenic treatment of gliomas in the related reference section below.

It is also a potent weapon in the fight against cancer cachexia and weight loss.

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THE KETOGENIC DIET IN THE TREATMENT OF CANCER, EPILEPSY, OBESITY, DIABETES, NEUROLOGICAL AND MITOCHONDRIAL DISEASE:

SOME RESEARCH EVIDENCE.

PUB MED SEARCH RESULTS FROM THE RESEARCH LITERATURE SUPPORTIVE OF THE THERAPEUTIC IMPACT OF A KETOGENIC DIET.

Review

Mol Metab

. 2020 Mar;33:102-121. doi: 10.1016/j.molmet.2019.06.026. Epub 2019 Jul 27.

Ketogenic diet in the treatment of cancer - Where do we stand?

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Affiliations expand

- PMID: 31399389 PMCID: [PMC7056920](#) DOI: [10.1016/j.molmet.2019.06.026](#)

Free PMC article

Abstract

Background: Cancer is one of the greatest public health challenges worldwide, and we still lack complementary approaches to significantly enhance the efficacy of standard anticancer therapies. The ketogenic diet, a high-fat, low-carbohydrate diet with adequate amounts of protein, appears to sensitize most cancers to standard treatment by exploiting the reprogramed metabolism of cancer cells, making the diet a promising candidate as an adjuvant cancer therapy.

Scope of review: To critically evaluate available preclinical and clinical evidence regarding the ketogenic diet in the context of cancer therapy. Furthermore, we highlight important mechanisms that could explain the potential antitumor effects of the ketogenic diet.

Major conclusions: The ketogenic diet probably creates an unfavorable metabolic environment for cancer cells and thus can be regarded as a promising adjuvant as a patient-specific multifactorial therapy. The majority of preclinical

and progression. One of the most familiar metabolic alterations encountered in several types of cancers is the upregulation of glycolysis, which is also maintained in conditions of normal oxygen tension (aerobic glycolysis, Warburg effect) while oxidative phosphorylation is apparently reduced. As a result, cancer cells convert most incoming glucose to lactate. Although more rapid, adenosine triphosphate (ATP) production by glycolysis is less efficient in terms of ATP generated per unit of glucose consumed than oxidative phosphorylation. The consequence is that tumor cells require an abnormally higher rate of glucose compared to the normal counterpart. **New evidence shows that other metabolic substrates such as glutamine may also have an important role in cancer metabolism. Ketogenic diet (KD) replaces all but non-starchy vegetable carbohydrates with low to moderate amounts of proteins and high amounts of monounsaturated and polyunsaturated fats. The rationale of KD is valid both because it lowers carbohydrate uptake possibly leading to cancer cell starvation and apoptosis and, at the same time, increases the levels of ketone bodies available for energy production in normal cells but not in cancer cells which have an allegedly downregulated oxidative phosphorylation.** For this reason, several authors speculate on the possibility to evaluate KD as a novel approach in the treatment of cancer. In this review we will assess the data supporting the use of such alimentary regimen and its impact on tumor development and progression.

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Rationale, Feasibility and Acceptability of **Ketogenic Diet** for **Cancer** Treatment.

Chung HY, Park YK.

J Cancer Prev. 2017 Sep;22(3):127-134. doi: 10.15430/JCP.2017.22.3.127.

Epub 2017 Sep 30.

PMID: 29018777 **Free PMC article.** Review.

Recently, dietary modulation by carbohydrate depletion via **ketogenic diet** has been suggested as an important therapeutic strategy to selectively kill **cancer** cells and as adjuvant therapy for **cancer** treatment.

Ketogenic Diet and Cancer-a Perspective.

Smyl C.

Recent Results Cancer Res. 2016;207:233-40. doi: 10.1007/978-3-319-42118-6_11.

PMID: 27557542 Review.

FOR EPILEPSY:

New insights into the mechanisms of the **ketogenic diet**.

Boison D.

Curr Opin Neurol. 2017 Apr;30(2):187-192. doi: 10.1097/WCO.0000000000000432.

PMID: 28141738 **Free PMC article**. Review.

Despite the ability of **ketogenic diet** therapy to suppress seizures refractory to antiepileptic drugs and reports of lasting seizure freedom, the underlying mechanisms are poorly understood. This review explores new insights into mechanisms mobilized by **ketogenic** ...

Mitochondria: The **ketogenic diet**--A metabolism-based therapy.

Vidali S, Aminzadeh S, Lambert B, Rutherford T, Sperl W, Kofler B, Feichtinger RG.

Int J Biochem Cell Biol. 2015 Jun;63:55-9. doi: 10.1016/j.biocel.2015.01.022. Epub 2015 Feb 7.

PMID: 25666556 Review.

The **ketogenic diet** is used therapeutically for pharmacoresistant epilepsy and for "rare diseases" of glucose metabolism (glucose transporter type 1 and pyruvate dehydrogenase deficiency). As metabolic reprogramming from oxidative phosphorylation toward increased gly

Ketogenic diet in endocrine disorders: Current perspectives.

Gupta L, Khandelwal D, Kalra S, Gupta P, Dutta D, Aggarwal S.

J Postgrad Med. 2017 Oct-Dec;63(4):242-251. doi: 10.4103/jpgm.JPGM_16_17.

PMID: 29022562 **Free PMC article**. Review.

Ketogenic diet (KD) is a high-fat, adequate-protein, and low-carbohydrate **diet** that leads to nutritional ketosis, long known for antiepileptic effects and has been used therapeutically to treat refractory epilepsy.

A **Ketogenic Diet** Reduces Central Obesity and Serum Insulin in Women with Ovarian or Endometrial **Cancer**.

Cohen CW, Fontaine KR, Arend RC, Alvarez RD, Leath CA III, Huh WK, Bevis KS, Kim KH, Straughn JM Jr, Gower BA.

J Nutr. 2018 Aug 1;148(8):1253-1260. doi: 10.1093/jn/nxy119.

PMID: 30137481 Clinical Trial.

BACKGROUND: The glycolytic nature of **cancer** cells presents a potential treatment target that may be addressed by a **ketogenic diet** (KD)

Ketogenic diet for obesity: friend or foe?

Paoli A.

Int J Environ Res Public Health. 2014 Feb 19;11(2):2092-107. doi: 10.3390/ijerph110202092.

PMID: 24557522 **Free PMC article**. Review.

One of the most studied strategies in the recent years for weight loss is the **ketogenic diet**. Many studies have shown that this kind of nutritional approach has a solid physiological and biochemical basis and is able to induce effective weight loss along with improv ...

Consuming a **Ketogenic Diet** while Receiving Radiation and Chemotherapy for Locally Advanced Lung **Cancer** and Pancreatic **Cancer**: The University of Iowa Experience of Two Phase 1 Clinical Trials.

Zahra A, Fath MA, Opat E, Mapuskar KA, Bhatia SK, Ma DC, Rodman SN III, Snyders TP, Chenard CA, Eichenberger-Gilmore JM, Bodeker KL, Ahmann L, Smith BJ, Vollstedt SA, Brown HA, Hejleh TA, Clamon GH, Berg DJ, Szweda LI, Spitz DR, Buatti JM, Allen BG.

Radiat Res. 2017 Jun;187(6):743-754. doi: 10.1667/RR14668.1. Epub 2017 Apr 24.

PMID: 28437190 **Free PMC article**. Clinical Trial.

The influence of **diet** on anti-**cancer** immune responsiveness.

Soldati L, Di Renzo L, Jirillo E, Ascierto PA, Marincola FM, De Lorenzo A.

J Transl Med. 2018 Mar 20;16(1):75. doi: 10.1186/s12967-018-1448-0.

PMID: 29558948 **Free PMC article**. Review.

Cohen CW, Fontaine KR, Arend RC, Soleymani T, Gower BA. *Nutrients*. 2018 Aug 30;10(9):1187. doi: 10.3390/nu10091187. PMID: 30200193 **Free PMC article**. *Clinical Trial*.

Lv M, Zhu X, Wang H, Wang F, Guan W.
PLoS One. 2014 Dec 11;9(12):e115147. doi: 10.1371/journal.pone.0115147.
eCollection 2014.
PMID: 25502434 **Free PMC article.**

Background: The employment of dietary strategies such as ketogenic diets, which force cells to alter their energy source, has shown efficacy in the treatment of several diseases. Ketogenic diets are composed of high fat, moderate protein and low carbohydrates, which favour mitochondrial respiration rather than glycolysis for energy metabolism.

Design: This review focuses on how oncological, neurological and mitochondrial disorders have been targeted by ketogenic diets, their metabolic effects, and the possible mechanisms of action on mitochondrial energy homeostasis. The beneficial and adverse effects of the ketogenic diets are also highlighted.

Results and conclusions: Although the full mechanism by which ketogenic diets improve oncological and neurological conditions still remains to be elucidated, their clinical efficacy has attracted many new followers, and ketogenic diets can be a good option as a co-adjuvant therapy, depending on the situation and the extent of the disease.

[illegible]

Mechanisms of action for the medium-chain triglyceride **ketogenic diet** in neurological and metabolic disorders.

Augustin K, Khabbush A, Williams S, Eaton S, Orford M, Cross JH, Heales SJR, Walker MC, Williams RSB.

Lancet Neurol. 2018 Jan;17(1):84-93. doi: 10.1016/S1474-4422(17)30408-8. Epub 2017 Dec 16.

PMID: 29263011 Review.

[Ketogenic Diet and its Evidence-Based Therapeutic Implementation in Endocrine Diseases].

Stocker RK, Reber Aubry E, Bally L, Nuoffer JM, Stanga Z.

Praxis (Bern 1994). 2019 Jun;108(8):541-553. doi: 10.1024/1661-8157/a003246.

PMID: 31185843 Review. German. English Abstract.

Ketogenic diet combined with antioxidant N-acetylcysteine inhibits tumor growth in a mouse model of anaplastic thyroid cancer.

Aggarwal A, Yuan Z, Barletta JA, Lorch JH, Nehs MA.

Surgery. 2020 Jan;167(1):87-93. doi: 10.1016/j.surg.2019.06.042. Epub 2019 Sep 12.

PMID: 31521320

Therefore, we sought to determine if a low glucose environment (in vitro) or a **ketogenic diet** (in vivo) could inhibit anaplastic thyroid **cancer** tumor growth

when combined with the antioxidant N-acetylcysteine. METHODS: In vivo, nude mice were injected with th ...

Impact of Different Types of **Diet** on Gut Microbiota Profiles and **Cancer** Prevention and Treatment.

Klement RJ, Pazienza V.

Medicina (Kaunas). 2019 Mar 29;55(4):84. doi: 10.3390/medicina55040084.

PMID: 30934960 **Free PMC article**. Review.

Among NCDs, tumors play a major role, being responsible for 29% of deaths from NCDs. A link between **diet**, microbiota, and **cancer** prevention and treatment has recently been unveiled, underlining the importance of a new food culture based on limiting dietary surplus a ...

Diet and Chemotherapy: The Effects of Fasting and **Ketogenic Diet** on **Cancer** Treatment.

Plotti F, Terranova C, Luvero D, Bartolone M, Messina G, Feole L, Cianci S, Scaletta G, Marchetti C, Di Donato V, Fagotti A, Scambia G, Benedetti Panici P, Angioli R.

Chemotherapy. 2020;65(3-4):77-84. doi: 10.1159/000510839. Epub 2020 Nov 16.

PMID: 33197913 Review.

Interestingly, **diet** has an influence in **cancer** development too (e.g., this relation has been studied for pancreatic, colonic, gastric, and breast **cancers**). ...In recent years, some studies have been published about the role that **diet** could have on chem ...

A **Ketogenic Diet** Is Acceptable in Women with Ovarian and Endometrial **Cancer** and Has No Adverse Effects on Blood Lipids: A Randomized, Controlled Trial.

Cohen CW, Fontaine KR, Arend RC, Gower BA.

Nutr Cancer. 2020;72(4):584-594. doi: 10.1080/01635581.2019.1645864.

Epub 2019 Jul 27.

PMID: 31352797

Ketogenic diets (KDs) are emerging as effective therapies for several chronic diseases, including **cancer**. ...We hypothesized that a KD does not negatively affect blood lipid profile compared to a lower-fat **diet** in ovarian and endometrial **cancer** patient ...

Ketogenic Diet: A New Light Shining on Old but Gold Biochemistry.

Longo R, Peri C, Cricrì D, Coppi L, Caruso D, Mitro N, De Fabiani E, Crestani M.

Nutrients. 2019 Oct 17;11(10):2497. doi: 10.3390/nu11102497.

PMID: 31627352 **Free PMC article.** Review.

However, KB are currently considered not only as energy substrates but also as signaling molecules. beta-hydroxybutyrate has been identified as class I histone deacetylase inhibitor, thus establishing a connection between products of hepatic lipid metabolism and epigenetics. **K** ...

Long-Term Survival Outcomes of Metabolically Supported Chemotherapy with Gemcitabine-Based or FOLFIRINOX Regimen Combined with **Ketogenic Diet**, Hyperthermia, and Hyperbaric Oxygen Therapy in Metastatic Pancreatic Cancer.

Iyikesici MS.

Complement Med Res. 2020;27(1):31-39. doi: 10.1159/000502135. Epub 2019 Sep 17.

PMID: 31527373 English.

OBJECTIVES: This study aimed to examine the efficacy of metabolically supported administration of chemotherapy combined with **ketogenic diet**, hyperthermia, and hyperbaric oxygen therapy (HBOT) in patients with metastatic pancreatic **cancer**. ...Age and gender di ...

Beyond weight loss: a review of the therapeutic uses of very-low-carbohydrate (**ketogenic**) diets.

Paoli A, Rubini A, Volek JS, Grimaldi KA.

Eur J Clin Nutr. 2013 Aug;67(8):789-96. doi: 10.1038/ejcn.2013.116. Epub 2013 Jun 26.

PMID: 23801097 **Free PMC article.** Review.

Recent work over the last decade or so has provided evidence of the therapeutic potential of **ketogenic** diets in many pathological conditions, such as diabetes, polycystic ovary syndrome, acne, neurological diseases, **cancer** and the amelioration of respiratory and car ...

The **ketogenic diet** for the treatment of malignant glioma.

Woolf EC, Scheck AC.

J Lipid Res. 2015 Jan;56(1):5-10. doi: 10.1194/jlr.R046797. Epub 2014 Feb 6. PMID: 24503133 **Free PMC article**. Review.

Tumor cells have an increased reliance on glucose, suggesting that treatments affecting cellular metabolism may be an effective method to improve current therapies. Indeed, metabolism has been a focus of **cancer** research in the last few years, as many pathways long associat ...

Ketogenic diet and childhood neurological disorders other than epilepsy: an overview.

Verrotti A, Iapadre G, Pisano S, Coppola G.

Expert Rev Neurother. 2017 May;17(5):461-473. doi: 10.1080/14737175.2017.1260004. Epub 2016 Nov 21. PMID: 27841033 Review.

In the last years, **ketogenic diet** (KD) has been experimentally utilized in various childhood neurologic disorders such as mitochondriopathies, alternating hemiplegia of childhood (AHC), brain tumors, migraine, and autism spectrum disorder (ASD). ...A few data suppor ...

The emerging role of **ketogenic** diets in **cancer** treatment.

Klement RJ.

Curr Opin Clin Nutr Metab Care. 2019 Mar;22(2):129-134. doi: 10.1097/MCO.0000000000000540. PMID: 30531479 Review.

However, **ketogenic** diets have gained growing attention in recent years as a nontoxic broad-spectrum approach to target this major metabolic difference between normal and **cancer** cells.

Low ketolytic enzyme levels in tumors predict **ketogenic diet** responses in **cancer** cell lines in vitro and in vivo.

Zhang J, Jia PP, Liu QL, Cong MH, Gao Y, Shi HP, Yu WN, Miao MY.

J Lipid Res. 2018 Apr;59(4):625-634. doi: 10.1194/jlr.M082040. Epub 2018 Feb 5.

PMID: 29414764 **Free PMC article.**

The **ketogenic diet** (KD) is a high-fat, very-low-carbohydrate **diet** that triggers a fasting state by decreasing glucose and increasing ketone bodies, such as beta-hydroxybutyrate (betaHB). ...Here, we determined expression levels of genes encoding the ketolytic ...

Promising Effect of a New **Ketogenic Diet** Regimen in Patients with Advanced **Cancer**.

Hagihara K, Kajimoto K, Osaga S, Nagai N, Shimosegawa E, Nakata H, Saito H, Nakano M, Takeuchi M, Kanki H, Kagitani-Shimono K, Kijima T.

Nutrients. 2020 May 19;12(5):1473. doi: 10.3390/nu12051473.

PMID: 32438645 **Free PMC article.**

We performed a case series study of a new **ketogenic diet** regimen in patients with different types of stage IV **cancer**. ...Our **ketogenic diet** regimen is considered to be a promising support therapy for patients with different types of advanced ...

Systematic review: isocaloric **ketogenic** dietary regimes for **cancer** patients.

Erickson N, Boscheri A, Linke B, Huebner J.

Med Oncol. 2017 May;34(5):72. doi: 10.1007/s12032-017-0930-5. Epub 2017 Mar 28.

PMID: 28353094 Review.

This systematic review therefore presents and evaluates the clinical evidence on isocaloric KD dietary regimes and reveals that evidence supporting the effects of isocaloric **ketogenic** dietary regimes on tumor development and progression as well as reduction in side effects ...

The mystery of the **ketogenic diet**: benevolent pseudo-diabetes.

Blagosklonny MV.

Cell Cycle. 2019 Sep;18(18):2157-2163. doi: 10.1080/15384101.2019.1644765. Epub 2019 Aug 1.

PMID: 31368400 **Free PMC article.**

Designed a century ago to treat epilepsy, the **ketogenic diet** (KD) is also effective against obesity and diabetes. ...Intriguingly, use of the KD and

rapamycin is indicated for a similar spectrum of diseases, including Alzheimer's disease and **cancer**. Ev ...

Feasibility, Safety, and Beneficial Effects of MCT-Based **Ketogenic Diet** for Breast **Cancer** Treatment: A Randomized Controlled Trial Study.

Khodabakhshi A, Akbari ME, Mirzaei HR, Mehrad-Majd H, Kalamian M, Davoodi SH.

Nutr Cancer. 2020;72(4):627-634. doi: 10.1080/01635581.2019.1650942.

Epub 2019 Sep 9.

PMID: 31496287

The present study was aimed to evaluate the safety, tolerability, and beneficial effects of a **ketogenic diet** (KD) on body composition and blood parameters and survival in patients with breast **cancer**. In this randomized, controlled trial, 60 patients with loca ...

Toward a **cancer-specific diet**.

Bozzetti F, Zupec-Kania B.

Clin Nutr. 2016 Oct;35(5):1188-95. doi: 10.1016/j.clnu.2015.01.013. Epub

2015 Jan 23.

PMID: 25707910 Review.

METHODS: This review analyzes the main available data regarding the tumour growth in patients undergoing a period of starvation or of normal/artificial nutrition as well as the recent approach through special normocaloric **ketogenic** diets which are well utilized by **cance** ...

The evolving role of **diet** in prostate **cancer** risk and progression.

Kaiser A, Haskins C, Siddiqui MM, Hussain A, D'Adamo C.

Curr Opin Oncol. 2019 May;31(3):222-229. doi: 10.1097/CCO.

0000000000000519.

PMID: 30893147 **Free PMC article**. Review.

PURPOSE OF REVIEW: This overview examines the rationale for dietary interventions for prostate **cancer** by summarizing the current evidence base and biological mechanisms for the involvement of **diet** in disease incidence and progression. ...The interplay between geneti ...

Poff A, Koutnik AP, Egan KM, Sahebjam S, D'Agostino D, Kumar NB. *Semin Cancer Biol.* 2019 Jun;56:135-148. doi: 10.1016/j.semcancer.2017.12.011. Epub 2017 Dec 30.

PMID: 29294371 **Free PMC article.** Review.

This review will primarily focus on interventions to induce ketosis to target the glycolytic phenotype of many **cancers**, with specific application to secondary chemoprevention of low grade glioma- to halt the progression of lower grade tumors to more aggressive subtypes, as ...

The Potential Use of a **Ketogenic Diet** in Pancreatobiliary **Cancer** Patients After Pancreatectomy.

Ok JH, Lee H, Chung HY, Lee SH, Choi EJ, Kang CM, Lee SM.

Anticancer Res. 2018 Nov;38(11):6519-6527. doi: 10.21873/anticancerres.13017.

PMID: 30396981

BACKGROUND/AIM: High-carbohydrate diets are generally provided to post-pancreatectomy **cancer** patients. Low energy density of this **diet** may obstruct proper energy intake and recovery. This study aimed to assess the effects of high-fat, high-energy **ketogenic** ...

ERGO: a pilot study of ketogenic diet in recurrent glioblastoma.

Rieger J, Bähr O, Maurer GD, Hattingen E, Franz K, Brucker D, Walenta S, Kämmerer U, Coy JF, Weller M, Steinbach JP.

Int J Oncol. 2014 Jun;44(6):1843-52. doi: 10.3892/ijo.2014.2382. Epub 2014 Apr 11.

PMID: 24728273 **Free PMC article.** Clinical Trial.

The **Ketogenic Diet**: Evidence for Optimism but High-Quality Research Needed.

Ludwig DS.

J Nutr. 2020 Jun 1;150(6):1354-1359. doi: 10.1093/jn/nxz308.

PMID: 31825066 **Free PMC article.**

Based on available evidence, a well-formulated **ketogenic diet** does not appear to have major safety concerns for the general public and can be

considered a first-line approach for obesity and diabetes. High-quality clinical trials of **ketogenic** diets will be ne ...

Postoperative serum metabolites of patients on a low carbohydrate **ketogenic diet** after pancreatectomy for pancreatobiliary **cancer**: a nontargeted metabolomics pilot study.

Kang CM, Yun B, Kim M, Song M, Kim YH, Lee SH, Lee H, Lee SM, Lee SM. Sci Rep. 2019 Nov 14;9(1):16820. doi: 10.1038/s41598-019-53287-y. PMID: 31727967 **Free PMC article.**

A **ketogenic diet** is a potential adjuvant **cancer** therapy that limits glucose availability to tumours while fuelling normal tissues with ketone bodies. We examined the effect of a low carbohydrate **ketogenic diet** (LCKD) (80% kcal from fat, **ketog** ...

Efficacy of Metabolically Supported Chemotherapy Combined with **Ketogenic Diet**, Hyperthermia, and Hyperbaric Oxygen Therapy for Stage IV Triple-Negative Breast **Cancer**.

Iyikesici MS, Slocum AK, Slocum A, Berkarda FB, Kalamian M, Seyfried TN. Cureus. 2017 Jul 7;9(7):e1445. doi: 10.7759/cureus.1445. PMID: 28924531 **Free PMC article.**

Triple-negative breast **cancer** (TNBC) is more aggressive and metastatic than other breast **cancer** types. ...This case report highlights the influence of metabolically supported chemotherapy (MSCT), **ketogenic diet** (KD), hyperthermia (HT), and hyperbaric o ...

A systematic review of the use of **ketogenic** diets in adult patients with **cancer**.

Sremanakova J, Sowerbutts AM, Burden S. J Hum Nutr Diet. 2018 Dec;31(6):793-802. doi: 10.1111/jhn.12587. Epub 2018 Jul 30. PMID: 30062812

BACKGROUND: A growing body of evidence indicates the importance of nutrition in **cancer** treatment. **Ketogenic** diets are one strategy that has been proposed to enhance traditional anticancer therapy. ...METHODS: We searched electronic databases using medical subject he ...

Beneficial effects of the **ketogenic diet** on nonalcoholic fatty liver disease: A comprehensive review of the literature.

Watanabe M, Tozzi R, Risi R, Tuccinardi D, Mariani S, Basciani S, Spera G, Lubrano C, Gnessi L.

Obes Rev. 2020 Aug;21(8):e13024. doi: 10.1111/obr.13024. Epub 2020 Mar 24.

PMID: 32207237 **Free PMC article.** Review.

Nonalcoholic fatty liver disease (NAFLD) is a major cause of chronic liver disease, characterized by hepatic fat accumulation and possible development of inflammation, fibrosis, and **cancer**. The **ketogenic diet** (KD), with its drastic carbohydrate reduction, is ...

Wilhelm Brunings' forgotten contribution to the metabolic treatment of **cancer** utilizing hypoglycemia and a very low carbohydrate (**ketogenic**) diet.

Klement RJ.

J Tradit Complement Med. 2018 Aug 20;9(3):192-200. doi: 10.1016/j.jtcme.2018.06.002. eCollection 2019 Jul.

PMID: 31193891 **Free PMC article.** Review.

The growing interest in the alterations of tumor cell metabolism and their possible therapeutic exploitation also spurred new complementary and integrative approaches such as treating patients with a **ketogenic diet** (KD). KDs aim at inhibiting glycolytic tumor metabo ...

Pros and Cons of Dietary Strategies Popular Among **Cancer** Patients.

Zick SM, Snyder D, Abrams DI.

Oncology (Williston Park). 2018 Nov 15;32(11):542-7.

PMID: 30474102 Review.

As many as 48% of **cancer** patients pursue popular diets, including the alkaline, Paleolithic, **ketogenic**, vegan, and macrobiotic diets, with the hope that they will improve survival and prevent recurrence. ...All of the diets emphasize eating vegetables, all but the ...

Investigating the Ketogenic Diet As Treatment for Primary Aggressive Brain Cancer: Challenges and Lessons Learned.

Schwartz KA, Noel M, Nikolai M, Chang HT.
Front Nutr. 2018 Feb 23;5:11. doi: 10.3389/fnut.2018.00011. eCollection 2018.

PMID: 29536011 **Free PMC article.**

Reported median survivals are approximately 8-15 months. Based on recent publications from animal models, combining **cancer** drugs, radiation, and **diet**-metabolic treatments may be a new route to better survivals. To investigate this possibility, we have begun a clinic ...

Obesity and tumor growth: inflammation, immunity, and the role of a **ketogenic diet**.

Wright C, Simone NL.

Curr Opin Clin Nutr Metab Care. 2016 Jul;19(4):294-9. doi: 10.1097/MCO.0000000000000286.

PMID: 27168354 Review.

A number of clinical trials have demonstrated the feasibility of a high-fat, low-carbohydrate **diet** as an adjuvant treatment for **cancer**, and current trials are investigating the impact of this intervention on disease outcomes. In preclinical trials, a **ketogenic** ...

<https://pubmed.ncbi.nlm.nih.gov/31943235/>

Ketogenic diets and protective mechanisms in epilepsy, metabolic disorders, **cancer**, neuronal loss, and muscle and nerve degeneration.

Li RJ, Liu Y, Liu HQ, Li J.

J Food Biochem. 2020 Mar;44(3):e13140. doi: 10.1111/jfbc.13140. Epub 2020 Jan 14.

PMID: 31943235 Review.

Ketogenic diet (KD), the "High-fat, low-carbohydrate, adequate-protein" **diet** strategy, replacing glucose with ketone bodies, is effective against several diseases, from intractable epileptic seizures, metabolic disorders, tumors, autosomal dominant polycystic ...

Beneficial effects of **ketogenic** diets for **cancer** patients: a realist review with focus on evidence and confirmation.

Klement RJ.

Med Oncol. 2017 Aug;34(8):132. doi: 10.1007/s12032-017-0991-5. Epub 2017 Jun 26.

PMID: 28653283 Review.

Effects of a **Ketogenic Diet** on [(18)F]FDG-PET Imaging in a Mouse Model of Lung **Cancer**.

Cussó L, Musteanu M, Mulero F, Barbacid M, Desco M.

Mol Imaging Biol. 2019 Apr;21(2):279-285. doi: 10.1007/s11307-018-1233-8.

PMID: 29968182

Wilhelm Brunings' forgotten contribution to the metabolic treatment of **cancer** utilizing hypoglycemia and a very low carbohydrate (**ketogenic**) diet.

Klement RJ.

J Tradit Complement Med. 2018 Aug 20;9(3):192-200. doi: 10.1016/j.jtcme.

2018.06.002. eCollection 2019 Jul.

PMID: 31193891 **Free PMC article**. Review.

Effects of a **ketogenic diet** on ADHD-like behavior in dogs with idiopathic epilepsy.

Packer RM, Law TH, Davies E, Zanghi B, Pan Y, Volk HA.

Epilepsy Behav. 2016 Feb;55:62-8. doi: 10.1016/j.yebeh.2015.11.014. Epub 2016 Jan 7.

PMID: 26773515 Clinical Trial.

Can Nutrition Lower the Risk of Recurrence in Breast **Cancer**?

Weigl J, Hauner H, Hauner D.

Breast Care (Basel). 2018 Apr;13(2):86-91. doi: 10.1159/000488718. Epub 2018 Apr 20.

PMID: 29887784 **Free PMC article**. Review.

Impact of a **ketogenic diet** intervention during radiotherapy on body composition: III-final results of the KETOCOMP study for breast **cancer** patients.

Klement RJ, Champ CE, Kämmerer U, Koebrunner PS, Krage K, Schäfer G, Weigel M, Sweeney RA.

Breast Cancer Res. 2020 Aug 20;22(1):94. doi: 10.1186/s13058-020-01331-5.

PMID: 32819413 **Free PMC article.** Clinical Trial.

Ketogenic Diet for Malignant Gliomas: a Review.

Thomas JG, Veznedaroglu E.

Curr Nutr Rep. 2020 Sep;9(3):258-263. doi: 10.1007/s13668-020-00332-2.

PMID: 32720120 Review.

Ketogenic diet, neuroprotection, and antiepileptogenesis.

Murugan M, Boison D.

Epilepsy Res. 2020 Nov;167:106444. doi: 10.1016/j.epilepsyres.2020.106444.

Epub 2020 Aug 19.

PMID: 32854046 Review.

Survival outcomes of metabolically supported chemotherapy combined with ketogenic diet, hyperthermia, and hyperbaric oxygen therapy in advanced gastric cancer.

Iyikesici MS.

Niger J Clin Pract. 2020 May;23(5):734-740. doi: 10.4103/njcp.njcp_509_18.

PMID: 32367884

Significance of low-carbohydrate diets and fasting in patients with cancer.

Szypowska A, Regulska-Ilow B.

Rocz Panstw Zakl Hig. 2019;70(4):325-336. doi: 10.32394/rpzh.2019.0083.

PMID: 31960664 Review.

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