

Natural Medicine and Cancer
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Lifestyle DO's:

- A high intake of raw fruit and vegetables i.e. Lots of Cruciferous vegetables (these contain Indole-3-carbinols, a phytochemical that has shown reliable anti-cancer activity in clinical trials - it has been shown that I3C and its metabolites are able to cause the breakdown of estrogen into its 2-hydroxy form - a cancer preventer, rather than the 16-hydroxy form - a cancer promoter), green pepper, eggplant, shallots, pineapple, apple, ginger, mint leaf, wheat sprouts, dark green, leafy vegetables, garlic, onions, carrots, pumpkins, whole grains.
- Foods high in folic acid, vitamins, A, C, E, B-complex, selenium, methionine, magnesium, manganese, potassium, zinc.
- Improve bowel flora with lactobacillus acidophilus and bowel movements with dietary fiber or psyllium powder (1 tsp. in water twice per day). Watch out for yogurt with a long list of ingredients - opt for simple yogurt with live cultures in it.
- Fresh vegetable and fruit juices contain abscisic acid, which inhibits cancer cell growth by helping destroy the growth hormone that cancer cells make. Abscisic acid is strongest in wheatgrass, green vegetables, mangos. Beta carotene in its natural form, has exhibited anticancer activity in clinical trials, particularly trials for lung, breast and prostate cancers. Lycopene, which is responsible for the red color of tomatoes, watermelons has exhibited excellent cancer inhibiting properties, particularly in trials for prostate cancers, and it is expected that other organ cancers will benefit from this phytonutrient as well.
- Eat fish (cold water, deep sea) 3 times/week or use a high quality fish oil (Cod Liver Oil—Carlson Labs, or Tuna Oil from Standard Process) supplement with no hexanes used in the processing.
- Add high lignan Flax seed oil to diet (drizzle on at serving time - 3 tsp/day), or grind raw, organic flax seeds (3 tbsp/day) fresh daily and add to cereals, yogurt, etc.
- Drink LOTS of green tea (6 - 10 cups/day)
- Butyric Acid - found in unheated butter, has been shown to inhibit cancer cell replication, particularly in the intestines and colon.

Lifestyle DON'Ts:

- Limit sugar intake (more research on this in “research” section. Think of this. PET scans use radioactively labeled glucose to detect sugar-hungry tumor cells. PET scans are used to plot the progress of cancer patients and to assess whether present protocols are effective.

- Don't use nicotine, alcohol, foods exposed to pesticides or irradiation, or that have mold, animal products treated with hormones. Reduce consumption of smoked, pickled or barbecued foods and foods containing artificial colors, nitrates, nitrites, cyclamate and saccharin. Simply don't eat 'artificial anything' as much as possible.
- Don't microwave foods in plastic ware.
- Fried foods.
- Refined foods, sweets, cakes, soft drinks, sugar and coffee.
- Absolutely no hydrogenated or partially hydrogenated fats - read labels because these are in everything--all baked goods, peanut butter, many frozen foods, even some 'health food store items'.
- While undergoing Chemo session, there is some evidence to advise avoiding agents that promote cell replication - particularly Folic Acid and Beta Carotene, but use these nutrients in replenishing amounts after the chemo regime is completed.
- It is advised that people with high risk for cancer avoid using soaps containing 'triclosan' (anti-bacterial soaps) and to also avoid antiperspirant use (esp. breast ca), although deodorants are considered OK, ideally a 'natural' deodorant is preferred.
- Keep the bowels and other organs of elimination working at optimal function.
- A good product for support of multiple organs of elimination is DermaCo by MediHerb. Vitanox by MediHerb is also has many cancer prevention herbs such as turmeric, green tea extract, grape seed extract and rosemary extract.

Research:

There has also been a great deal of research on lowering sugar intake and stopping the growth of cancer cells.

From the Scientific American Jan 02:

The key to halting cancer cells may lie in their sugary coats, scientists say. Carbohydrate molecules surround all cells and help them to identify and interact with one another. Now new research, published in the Proceedings of the National Academy of Sciences, indicates that altering some of the surface sugars associated with cancer cells can control tumor growth. The findings suggest that the sugars could one day serve as targets for new anti-cancer therapies.

Previous research had suggested that certain features of the polysaccharide sugars surrounding tumor cells might indicate either the stage or aggressiveness of the cancer. Whether changes to the coating were a cause or a consequence of the disease, however, remained unclear. To investigate the control a cancer cell's sugar jacket exerts over its growth, Ram Sasisekharan and colleagues at the Massachusetts Institute of Technology employed two enzymes capable of cutting the sugar heparin sulfate in different places. They injected cancerous mice with both the enzymes and the two sugar fragments they produce. Injection of heparinase 1 (hep 1) or its corresponding sugar fragment promoted

growth of melanoma tumors in the mice. Injection of heparinase III (hep III) or its product, in contrast, inhibited tumor growth and prevented spread of the disease to other organs.

The researchers also investigated the mechanism by which the two sugar fragments act on cancer cells and determined that the sugars bind to, and hence disrupt, the activity of certain signaling molecules involved in tumor activity. The opposing effects that the two molecules have on tumor growth suggest that cancer could involve a biological balancing act. "Tumors might be kept in check by the body's production of specific enzymes that in turn release sugar fragments that keep tumor cells dormant," Sasisekharan explains. "Or, perhaps in response to pathophysiological changes, a tumor cell releases different enzymes that enable the tumor to grow more rapidly.

Research many years ago gave us a great deal of information on this:

The 1931 Nobel laureate in medicine, German Otto Warburg, Ph.D., first discovered that cancer cells have a fundamentally different energy metabolism compared to healthy cells. The crux of his Nobel thesis was that malignant tumors frequently exhibit an increase in anaerobic glycolysis--a process whereby glucose is used as a fuel by cancer cells with lactic acid as an anaerobic byproduct--compared to normal tissues. The large amount of lactic acid produced by this fermentation of glucose from cancer cells is then transported to the liver. This conversion of glucose to lactate generates a lower, more acidic pH in cancerous tissues as well as overall physical fatigue from lactic acid buildup. Thus, larger tumors tend to exhibit a more acidic pH.

Other studies:

A mouse model of human breast cancer demonstrated that tumors are sensitive to blood-glucose levels. Sixty-eight mice were injected with an aggressive strain of breast cancer, then fed diets to induce either high blood-sugar (hyperglycemia), normoglycemia or low blood-sugar (hypoglycemia). There was a dose-dependent response in which the lower the blood glucose, the greater the survival rate. After 70 days, 8 of 24 hyperglycemic mice survived compared to 16 of 24 normoglycemic and 19 of 20 hypoglycemic.¹⁰ This suggests that regulating sugar intake is key to slowing breast tumor growth (see chart, p. 164).

In a human study, 10 healthy people were assessed for fasting blood-glucose levels and the phagocytic index of neutrophils, which measures immune-cell ability to envelop and destroy invaders such as cancer. Eating 100 g carbohydrates from glucose, sucrose, honey and orange juice all significantly decreased the capacity of neutrophils to engulf bacteria. Starch did not have this effect.

A four-year study at the National Institute of Public Health and Environmental Protection in the Netherlands compared 111 biliary tract cancer patients with 480 controls. Cancer risk associated with the intake of sugars, independent of other energy sources, more than doubled for the cancer patients. Furthermore, an epidemiological study in 21 modern

countries that keep track of morbidity and mortality (Europe, North America, Japan and others) revealed that sugar intake is a strong risk factor that contributes to higher breast cancer rates, particularly in older women.

Limiting sugar consumption may not be the only line of defense. In fact, an interesting botanical extract from the avocado plant (*Persea americana*) is showing promise as a new cancer adjunct. When a purified avocado extract called mannoheptulose was added to a number of tumor cell lines tested in vitro by researchers in the Department of Biochemistry at Oxford University in Britain, they found it inhibited tumor cell glucose uptake by 25 to 75 percent, and it inhibited the enzyme glucokinase responsible for glycolysis. It also inhibited the growth rate of the cultured tumor cell lines. The same researchers gave lab animals a 1.7 mg/g body weight dose of mannoheptulose for five days; it reduced tumors by 65 to 79 percent. Based on these studies, there is good reason to believe that avocado extract could help cancer patients by limiting glucose to the tumor cells.

Ketogenic Diet and Astrocytoma Tumors, Journal of the American College of Nutrition, 1995;14(2):202-208

2 pediatric patients with advance stage astrocytoma followed for 8 weeks on a ketogenic diet. After 7 days, PET scans indicated a 21.8% decrease in glucose uptake at the tumor site. At the time of this writing both patients remained in remission at 5 and 4 years respectively.

Johns Hopkins Medical Institutions News Release, Feb 17th 1998

Found evidence that some cancer cells are such sugar junkies that they self destruct when deprived of glucose.

Other:

Great information on Iodine and cancer. www.optimox.com Ioderal can also be ordered from our office as well.

For advanced breast cancer detection: www.thermography.com