Cancer Cells Love sugar ?

Recently I met a guy at lunch at a friend's home, and he said that he suffers from a liver cancer and is seeking homeopathic treatment in Hong Kong. What surprised me was that this guest was given a special desert (strawberries) with no sugar on the advice of his homeopathic doctors. He did have a Scotch, and ate white rice and curries, with no fuss.

He also revealed while discussing his condition that he gets insulin shots regularly to reduce the sugar level in the blood with the belief that you could starve the cancer cells by reducing the blood sugar level. The liver is a very vascular organ and regulates glucose traffic through the body. Liver cancer can feed on liver glucose as required with no restriction and giving insulin further increases the glucose storage as glycogen.

The rationale of giving insulin is not understood, especially for liver cancer. From our way of thinking by giving insulin, if the affinity to sugar by cancer cells is accepted in theory, one would think that glucose storage will encourage liver cancer cells to 'plump' and spread rapidly (tumorigenesis).

The allopathic doctors hardly offer such sugar starvation nutrition therapy beyond being told to "just eat good foods." The 1931 Nobel Laureate in medicine, German Otto Warburg, PhD. first discovered that cancer cells have a fundamentally different energy metabolism compared to healthy cells. The crux of his Nobel thesis was that malignant tumours frequently exhibit an increase aerobic glycolysis - a process whereby glucose is used as a fuel by cancer cells In contrast to normal differentiated cells, which rely primarily on mitochondrial oxidative phosphorylation to generate the energy needed for cellular processes, most cancer cells instead rely on aerobic glycolysis, a phenomenon termed "the Warburg effect." The Warburg effect is misunderstood. According to Warburg's theory cancer cells use energy from glucose through a process called glycolysis unlike normal cells. That does not mean that cancer cells have a greater affinity for sugar which is believed by non-medical practitioners.

Aerobic glycolysis is an inefficient way to generate adenosine 5-triphosphate (ATP) as in normal cells, however, and the advantage it confers to cancer cells has been unclear. The medical establishment may be missing the connection between sugar and its role in tumorigenesis. Consider the million-dollar positive emission tomography device, or PET scan, regarded as one of the ultimate cancer-detection tools. PET scans use radioactively labelled glucose to detect sugar-hungry tumour cells. PET scans are used to plot the progress of cancer patients and to assess whether present protocols are effective.

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. Can you apply this theory and put into practice and limit carbs with high GI and other sugars containing foods like fruits, rice, noodles, pasta among others?

According to the theory that cancer cells have a "sweet tooth," patients with diabetes controlled with low carb diets and anti-diabetic pills and or insulin therapy should be comparatively starving the cancer cells, and should have a better prognosis among diabetics having cancer. These malignant patients soon get wasted, become cachectic with loss of energy, and physical weakness and malnourishment will progress inevitably and spread the disease, possibly with distance metastasis. Depriving foods containing sugar will accelerate the catabolic (metabolic breakdown) activity in the body and affect the natural immune system and lead to more debilitation.

Hence, cancer therapies should encourage the patients to have a well-balanced diet without restricting carbs with diet supplements and non-oral solutions for cachectic patients who lose their appetite. Professional guidance and patient self-discipline are crucial at this point in the cancer process. The quest is not to eliminate sugars or carbohydrates from the diet but rather provide a well-balanced diet to bolster the immune system. On the contrary 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 defence. 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 tumour cell lines tested in vitro by researchers in the Department of Biochemistry at Oxford University in Britain, they found it inhibited tumour 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 tumour cell lines. The same researchers gave lab animals a 1.7 mg/g body weight dose of mannoheptulose for five days; it reduced tumours 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 tumour cells.

The treatment for liver cancer, like cancer in any organ, is to detect it

early and stage the progress and render statistically accepted protocol.

* Surgery - cutting out of the cancerous part of the liver or full

transplantation of another liver to replace the diseased one.

* Cryo surgery technique kills cancer cells by freezing them.

* Chemotherapy uses drugs to kill cancer cells. The medications are usually injected into a vein or artery using a needle. The drugs are taken in the bloodstream to the liver, but can also kill cancer cells in other parts of the body. Sometimes the drugs are put directly into a blood vessel that supplies the liver tumour. Chemotherapy is often used after surgery to kill off any remaining cancer cells in the body.

* Radiotherapy uses X-rays or radiolabelled substances to kill the cancer cells.

* Ethanol (absolute alcohol) injection directly into the tumour is reportedly quite successful with small tumours

* Radiofrequency ablation: An electric current of a certain frequency is used to heat and destroy cancer cells. This type of treatment may be used for small unresectable tumours.

* Targeted treatment: A new medication - Sorafenib (brand name Nexavar) has been developed for the treatment of advanced liver cancer. This medication

works by interfering with the tumour's ability to generate new blood vessels.

Your doctor is the best person to advise you about management options for your particular tumour. Believing in the homeopathic way of management may not be the rational protocol for malignant disease of the liver.