The Diet Whisperer: Nutrition and Cancer Care

Introduction

Yes, a healthful diet can help prevent cancer. But what is diet's role in cancer treatment? Modern medical care is sometimes thought to obviate the need for diet. This is a costly mistake! The opposite is true. Diet becomes even more important when cancer is present. Cancer is a body cry for nourishment. Physicians should be actively involved for several reasons:

• Diet interacts with medications, so that a physician may need to adjust dosage accordingly.
• Diet can be protective, reducing the side effects of chemotherapeutic and radiologic interventions.
• Cancer treatment can induce reactions to certain foods and require additional intake of certain nutrients.
• Diet can be therapeutic - improving quality of life, managing symptoms, and treating disease.
• Dietary choices can sometimes help predict disease course and treatment outcomes.
• Physician-ordered laboratory tests can provide patient-specific recommendations.
• Select dietary nutrients have been shown to potentiate the effect of chemotherapeutic agents.
• When a physician asks patients detailed questions about their diets, those questions communicate the correct message: diet is important.

Being a nutrition doctor makes me a target for dietary details. "Is a certain sweetener better than another?" "What brand is best?" "With a certain type of cancer, is it better to eat spinach than lettuce?" These details tend to cloud the important overall approach. After all, there are only so many things somebody can focus on at one time and still enjoy their meal! This column aims to present the big picture. Then, within the framework of four big picture principles, patients can select food they enjoy and enjoy eating their meals.

1. Reduce the Insulin Response

In the 1700s, guests didn't just come over for dinner, they stayed for several days. Sometimes guests stayed and stayed until disinvited. The signal was a brown bag lunch. This "hit the road, Jack" lunch was supposed to include a pork chop or lamb shank, and therefore became known as giving someone the "cold shoulder."

The way to disinvite cancer cells is similar: a sparse meal scant on sugar and starch. The one diet proven to increase longevity is a calorie-reduced diet, with balanced macronutrients and adequate micronutrients. Here's what occurs in such a diet: less insulin is required to chaperone glucose into healthy cells, the body organs remain sensitive to insulin, and cancer cells get the "cold shoulder."

Reducing insulin has two parts: 1) eating less, especially less sugar and starch, and 2) eating nutrients that keep cells sensitive to insulin's cue. Many such nutrients are found in a plant-based diet with a variety of colorful fruits and vegetables.

2. Eat Phytonutrients

Thousands of known nutrients are found in a plant-based diet. Most of these are not in a multivitamin. You have to eat them! Since science is always finding new supernutrients, one could infer that there are many nutrients with not-yet-identified health-promoting, cancer-chasing roles. So even though a few phytonutrients are encapsulated, it's by no means all of them.

• Phytonutrients found in cinnamon, ginger, and rosemary promote insulin sensitivity.
• Phytonutrients found in pomegranate can stall angiogenesis, especially in cancer cells.
• Cancer is associated with inflammation and oxidative damage. Curcumin found in turmeric has been shown to temper the oxidative damage of several diseases including Alzheimer's dementia. Apples are rich in quercetin, which also reduces inflammation.
• Vegetables are alkalinizing foods, which help the body stressed from cancer maintain lean muscle mass, connective tissue, and bone.

One of the marvels about stem cells and their healing potential is that they migrate to where they are needed, as if they have their own navigating system. Phytonutrients also appear to have this ability to "know" where they are needed. For example, lutein and zeaxanthin concentrate in the eye, lycopene in the prostate, and soy isoflavones in the breast. These nutrients are amazingly complex, so these examples are admitted oversimplifications. The salient points are that dietary diversity of phytonutrients is important, supplemental dosing could upset the balance of phytonutrients not currently well understood, and blood levels of phytonutrients are unlikely to reflect the levels in the tissues to which they quickly travel.

3. Get an Oil Change

Dietary fats are the building blocks of cells. Dietary fat intake over a three-month period can be inferred from an analysis of the fatty acids found in red blood cell membranes. Healthful fats make healthy cell membranes and high energy-producing mitochondrial membranes.

I recommend red blood cell fatty acid analysis for cancer patients, both upon diagnosis and following medical therapy. Taking a thorough diet history, while important, is generally not sufficient information to guide fatty acid supplementation in cancer patients, for the following reasons:

• Cancer is more likely to occur when fatty acid intake is imbalanced, so having cancer increases the chances of having deficient levels of certain fatty acids.
• Cancer treatment changes the way the body processes dietary fats.
• Phosphotidyl choline, butyrate, and the polyunsaturated fats can be used more precisely and to their full potential with laboratory-guided supplementation.

My column in the October 2008 edition of Townsend Letter on skin conditions will detail the clinical use of fatty acids. More information is also available in the upcoming textbook Food and Nutrients in Disease Management (CRC Press, 2009), which I have edited.

4. Learn How to Eat Protein

Daily dietary protein recommendations are for 0.8 to 1 gram per kilogram (2.2 pounds) of body weight. Cancer tends to increase the body’s demand for protein:

• The enzymes that break down food from the mouth through to the intestines are sometimes decreased during cancer treatment. This could decrease the amount of protein absorbed from the diet.
• Cancer and its medical treatments are associated with tissue-damaging inflammation. Protein is needed to repair the damaged tissue.
• Cancer and its therapies can divert dietary protein to energy production (glucose synthesis) and away from its primary anabolic roles.

Eating protein is expensive. Not only does it cost more at the grocery store, protein sources exact a fat nickel on the metabolism as well. Protein-rich foods tend to be high-fat, acidifying, and potentially high in carcinogens. The need for more protein coupled with the potential increased harm from protein places patients with cancer in a conundrum.

The approach I use to help cancer patients get the needed protein with as little collateral damage as possible is as follows:

• Eat eggs (the yolk and white together) because this is the dietary protein combination best for anabolism. Eggs are the food with the highest net nitrogen utilization.
• Eat nuts, seeds, and dry beans, which are protein sources with additional health benefits.
• Limit meat intake and choose meats which are as lean as possible. Never charbroil meat. Do not eat processed meats such as sausage and most sandwich meats. Whenever eating meat, do so with lots of alkalinizing fruits and vegetables.
• Consider using supplemental amino acids or supplemental proteins. I used to be more in favor of whey protein in cancer support than I am now. The basis for my current caution is that whey is derived from cow’s milk, which contains growth hormone. I’m not talking about added hormones, but the growth hormone that a calf needs to grow into a full-sized cow in one year. Since growth hormone is a protein hormone, it is potentially concentrated in whey supplements. I have not been able to ascertain whether certain formulations are different. Soy protein supplements can be goiterogenic, especially in the setting of low iodine commonly found in cancer.
• A protein-replete diet should be the starting point. That said, supplemental amino acids can be very effective in treating specific symptoms, and I find them to be an integral part of my clinical practice. Examples include glutamine for gastrointestinal stress, arginine during atherosclerosis, lysine during immunosuppressive states, tyrosine and 5-hydroxytrptophan for depression, N-acetyl cysteine for detoxification, and essential or branched-chain amino acids for muscle maintenance. Even though amino acids are available as nutritional supplements without medical supervision, protocols and physician monitoring are very important.

Conclusion

When the body gets the right stuff, it takes care of itself. The nourished body burns fat, removes toxins, and incarcerates cancer. Sometimes, we and our medical system get impatient, and we try to change the natural order of healing. Instead of nourishing the body first, we force the results. We crash-diet, over-exercise, megadose, detoxify, irradiate, and chemically treat. We should nourish the cancer-stricken body first. Then the healing message won’t need a megaphone to be heard. It can be delivered with a gentle whisper.

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