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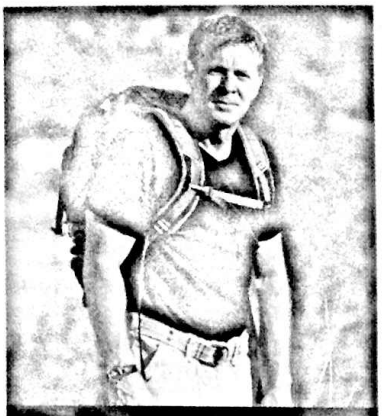

Dr. David G. Williams

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Never Fear Cancer Again

Cancer is one of the most frightening diseases of our time. Just as there isn't a single causative factor for cancer, there isn't a single effective, sure-fire treatment for all types of cancer. Fortunately, there are several natural products that have been shown to not only help prevent cancer in the first place, but also, in many cases, to treat and/or eliminate the problem altogether. Some are stand-alone products, but most can be used safely and effectively as adjunctive therapies to more conventional treatments if desired. In this report, I'll share with you some of the gems I have found that can really help make a difference in the battle against cancer.

Stopping the Spread of Cancer

In most discussions about cancer, the one area that doesn't get enough attention is metastasis. This is the spread of the cancer from one organ or part of the body to another. While most cancers are still treated with some form of surgery to remove the primary tumor, chemotherapy or radiation is used after surgery to eliminate any remaining cancer cells that could otherwise migrate from the original site and form new tumors. The prognosis of most cancers becomes significantly less favorable once a cancer spreads. *In most cases it is the metastases that are responsible for a patient's death rather than the primary tumor.*

If you're ever diagnosed with cancer, in addition to utilizing every reasonable therapy like those I'll mention later in this report, it's imperative to do whatever possible to limit its spread. Research strongly suggests that you have to focus on two main areas to stop a primary tumor from metastasizing.

How Cancer Feeds

The first area to consider is angiogenesis, or the growth of new blood vessels. Cancerous tumors naturally have weak, poorly formed blood vessels that must be continuously replaced with new ones. And without the constant formation of new blood vessels, a tumor can't grow. By stopping angiogenesis, you don't directly destroy a tumor but, instead, little by little, cut off its supply of nutrients and its ability to remove waste products. Without new circulation, the tumor begins to shrink and gradually turns into an inert mass of tissue. Since the mid-1960s, when Dr. Judah Folkman originated the

Preventing Metastasis After Cancer Surgery

The late Dr. Judah Folkman is considered to be the father of anti-angiogenic therapy. Since I first spoke with him nearly 20 years ago about his theories, many of them have been proven accurate. One of his early observations was that once a primary tumor was removed surgically it often seemed to trigger the sudden growth of distant metastases that had previously been inactive. It was his theory that the primary tumor secreted some type of anti-angiogenic compound that kept the distant tumors from growing. Once the primary tumor was removed, however, the distant metastases were free to begin making new blood vessels and growing rapidly. This theory has now been shown to be on target as well. (*Gene Ther 03;10:1903–1909*) (*Clin Cancer Res 08;14:1159–1166*) (*Cancer Res 03;63:308–311*)

As a practical matter, it appears that what you do after a primary tumor has been removed can have an enormous influence on your ability to survive.

There's a tremendous amount of research underway now in which anti-angiogenic drugs (drugs that block the formation of new blood vessels) are being given immediately before and after a primary tumor is removed. It will probably be years, if not decades, before all the research is finished and evaluated, and at least that long again before this type of therapy becomes commonplace.

Fortunately, we have a long list of safe and natural anti-angiogenic products available to us now. In addition to shark cartilage, some of the better-known products include curcumin, the omega-3 fatty acid DHA, the omega-6 fatty acid GLA, green tea and its extracts, licorice, quercetin, vitamin D3, selenium, melatonin, and resveratrol. It would be hard to recommend exactly which one would be best for an individual, since everyone's situation and makeup will vary tremendously.

If I had to have any cancerous tumor removed, I would personally be taking a wide variety of anti-angiogenic products before, during, and after the procedure. And if, god forbid, it happens to you or your loved one, you should consider anti-angiogenic therapy and discuss it with your doctor as well.

idea of treating cancer with anti-angiogenesis compounds, a few such compounds have become available, and dozens more are currently being developed and tested.

One of the most potent natural anti-angiogenic compounds I've seen to date is shark cartilage. When it's processed properly (without excess heat or protein-damaging solvents), it has the ability to inhibit angiogenesis. Most shark cartilage products fall far short of that goal, however. The market has become flooded with inferior products and outrageous claims, which has kept shark cartilage from being considered seriously as a cancer treatment. It's a stigma that still exists today.

I first wrote about shark cartilage in 1991, and reported on it throughout the decade. Clinical trials of using shark cartilage in cancer patients both here and abroad (primarily Cuba) produced remarkable results. Even in the most advanced patients, shark cartilage often has the ability to improve the quality of life and either shrink or totally eliminate cancerous tumors. Unfortunately, the product I had recommended that was used in the FDA-approved human clinical trials, BeneFin, is no longer available. I now recommend Shark Cartilage Powder from Lane Labs (*www.lanelabs.com* or 800-526-3005).

How Cancer Spreads

The second method of limiting metastasis focuses on keeping migrating cancer cells from clumping together and forming new tumors. Cancer cells that have broken free from the primary tumor (or are dislodged during surgery or a biopsy) circulate via the blood and lymph systems. Proteins on their surface, called lectins, are attracted to certain sugar molecules found on the surface of most cells. When several begin

to attach in one area, a cluster is formed and the potential for a new cancer site is established. Research efforts have focused on the search for compounds that can attach to the lectins on the surface of cancer cells and keep them from clumping and/or attaching to normal cells.

One natural product that has repeatedly shown promise in preventing cancer metastases is modified citrus pectin (MCP). Pectin is the structural fiber in plants that helps give the cell walls of the plant their shape and strength. MCP is pectin that's processed to split the complex carbohydrates into smaller sugar units that can be absorbed into the bloodstream. It is rich in the same sugar molecule (galactose) that the lectins attach to. Once the cancer cells are "locked on" to the MCP molecules, they lose their ability to clump or penetrate normal cells. By binding to the lectins of cancer cells, MCP can help inhibit the cancer from growing and developing into the more advanced stages—as well as help prevent it from metastasizing.

The Evidence Speaks

So far, most of the cancer research on MCP has been conducted on animals or with cells in the laboratory. The results, however, are impressive.

Researchers at Wayne State University in Detroit found that by adding MCP to the drinking water of rats injected with live prostate cancer cells, metastases could be reduced dramatically. The rats were divided into three groups—two groups had MCP added to their drinking water (0.1 percent for one group and 1.0 percent in the other), and the third group received no MCP. After 30 days, 15 of the 16 rats in the untreated group had cancer metastases in their lungs, compared to 7 of 14 rats who received MCP at the lower level and 9 out of the 16 receiving 1.0 percent MCP. The rats that received the higher amount of MCP had an average of only one metastatic tumor—compared to an average of nine lung metastatic tumors in the untreated group. (*J Natl Cancer Inst 95;87:331–332*)

In a similar study, rats were injected with human breast cancer cells and then treated with MCP orally. Those receiving the MCP experienced significant reductions in tumor growth, angiogenesis, and metastases. (*J Natl Cancer Inst 02;94:1854–1862*)

Another study involved mice implanted with colon cancer tumors. The control group received untreated water, while the others received either a low dose of MCP (0.8 mg/mL) or a high dose of MCP (1.6 mg/mL) in their drinking water. When compared to the control group, the low dose resulted in a 38 percent decrease in tumor size, and the high-dose treatment resulted in a 70 percent reduction in tumor size. (*Altern Med Rev 00;5:546–552*)

Making the Move to Real Patients

Human studies of MCP are limited. Clinically testing a natural therapy on cancer patients is extremely difficult. Only patients with very advanced cancer, for whom all other treatments have failed and no other therapies are available, are allowed to participate in these studies. This was the case with a study from Germany in which researchers treated 49 patients with MCP. All had advanced solid tumors, and 90 percent had metastases. Most had suffered from cancer for more than three years, and over half had been treated with several chemotherapy regimens and other programs.

The focus of the study was on determining how well the patients tolerated the MCP and whether there was a notable clinical benefit (reduction in pain levels, less need for medication, improved ability to perform daily activities, and weight gain). Based on the starting condition of the patients, no one expected any long-lasting anti-tumor response or cure, and there was none. Twenty dropped out of the trial before the end, so

only 29 of the original 49 patients could be evaluated after receiving two cycles of MCP treatment. (Each cycle consisted of 5 grams of MCP three times a day for a period of two weeks.)

Considering the health of the patients at the beginning of this study, I found it remarkable that just over 20 percent experienced an overall clinical benefit along with an improvement in their quality of life. All of the patients tolerated the therapy without any significant difficulty. Furthermore, 12 patients showed a stabilized disease during the first 8 weeks of treatment and 10 remained stabilized over the 16-week period. In six patients the disease stabilized for longer than 24 weeks while on the MCP. (*Clin Med Oncol 07;1:73–80*)

At first glance, these results don't look too promising. But remember that these were people whose condition had been dismissed as hopeless. At that point, a cancer patient's body is usually so depleted that any benefit at all, even some relief from pain, is seen as nearly a miracle. Given what we know about how MCP works, and given these findings, it's obvious that MCP can and should be used very early in the treatment of cancer and not just at the end stages of the disease.

Prevention as Well as Treatment

Another area where I feel MCP should be used routinely is for biopsies. As I mentioned earlier, a biopsy can actually increase the risk of spreading a cancer. Taking 15 grams a day of MCP (5 grams three times a day) for a week before the procedure and then for two to four weeks afterward is the recommended dose for those undergoing a biopsy to minimize the risk that the biopsy will cause the cancer to spread.

MCP has an absolute lack of toxicity. Repeated animal studies have shown it reduces the size and number of tumors, as well as the size and number of metastases. It should be an integral part of any therapeutic program to treat or even prevent cancer.

In practically all of the human cancer studies, a dosage of 15 grams a day was used (5 grams taken three times a day). This dosage for cancer is generally used as long as the cancer is active or present; a year is not unreasonable. After that period, a generally recommended maintenance dose is usually 3 to 5 grams daily. There are no serious side effects, but it's possible that some people might initially experience a little intestinal gas or mild stomach discomfort. This is temporary and not uncommon when increasing the amount of any type of fiber in the diet.

The studies I outlined above utilized a product called PectaSol, which is marketed in this country by EcoNugenics. This is the only MCP product I feel comfortable recommending. There's no other product of this caliber on the market, and it has decades of research and use to support its claims of effectiveness. The latest version of this product is called PectaSol-C. Through a complicated, proprietary process they've been able to reduce the size (molecular weight) of the pectin components—improving their absorbability and, hence, their effectiveness.

Readers of *Alternatives* learned about PectaSol-C before anyone else. In fact, the company generously agreed to provide a discounted offer to *Alternatives* subscribers: If you buy three jars, they'll send a fourth one along for free. You can order PectaSol-C at *www.econugenics.com/MCP,* or call them at 800-308-5518. Be sure to mention that you're a subscriber.

An Immune Boosting Powerhouse From a Surprising Source

Many of my gardener friends believe that there is nothing quite as unglamorous as the lowly mushroom. After a good rain, it sprouts, unwanted, from the mulch in their flower beds and throughout their lawns. But, there are others who look at the mushroom with a completely different eye. In fact, certain

mushrooms have been revered for centuries for their health-enhancing abilities.

Therefore, it may be surprising to some, yet completely sensible to others, that an incredible immune-boosting substance has been developed from a particular mushroom extract called active hexose correlated compound (AHCC).

Research on the extract began in the early 1980s in Japan. To date, over 40 different studies have been conducted on it, both in the US and Japan, by researchers at several different clinics and laboratories.

Over and over again, AHCC has proven to be one of the safest and most potent natural immune boosters ever tested. Researchers at NASA have even found the product could be useful in the prevention and treatment of various infections during space travel. *(J Appl Physiol 03;95(2):491–496)*

How AHCC Works

To understand just how powerful and useful AHCC can be, it helps to have a brief understanding of one of the most common forms of white blood cells of your immune system. Your immune system contains over 130 subsets of white blood cells, but natural killer (NK) cells comprise roughly half of the total.

NK cells provide the first line of defense for dealing with any form of invasion to the body, whether it be in the form of a virus, bacteria, or cancer cell. I've compared NK cells to elite soldiers who are immediately called upon to seek and destroy dangerous invaders.

Each NK cell contains several small granules, which act as "ammunition." Once an NK cell has recognized a cancer cell, for example, it attaches itself to the cell's outer membrane and injects these granules directly into the interior of the cell. The granules then "explode," destroying the cancer cell within five minutes. The undamaged NK cell

Other Benefits of AHCC

While it's true proper nutrition, exercise, various supplements, and rest all play important roles in helping to strengthen your immune system, AHCC can provide an immediate, sustained boost to your system unlike any other compound, synthetic or natural, I have seen. So, in addition to its cancer-fighting abilities, AHCC is one product you will want to remember in the event of some serious flu or flu-like epidemic. It's a perfect product to use either alone or in conjunction with other therapies to prime your immune system to fight off any type of pathogen.

Knowing your family medical history is also important. After a careful look at the diseases and causes of death of one's ancestors, it often becomes apparent that some individuals are at greater risk of developing certain diseases. Cancer is only one such example. In many cases, these diseases would be far less likely to develop if one's immune system operated at peak efficiency. That's where AHCC could be a godsend. It's something I would strongly consider taking on a regular preventive basis if you fall into any of the following categories:

- Heavy smoker (two or more packs a day)
- Heavy drinker
- Individuals whose work or home environment exposes them to pesticides, paints, solvents, or other dangerous chemicals
- Individuals who work in the medical field treating highly contagious diseases
- Individuals whose family medical history indicates an increased chance of developing cancer, arthritis, any autoimmune disease, inflammatory problems, or heart disease
- Individuals whose family has a strong history of cancer
- Individuals born with immune deficiencies
- Elderly individuals with failing immune systems (Natural killer cells tend to respond more slowly and less effectively as we get older. This often results in recurring bouts of infection and a very noticeable decline in overall health.)

then moves on to other cancer cells and repeats the process over and over again. When your immune system is particularly strong, active NK cells will often take on two or more cancer cells or pathogens at the same time.

Unlike other white blood cells, inadequate numbers of NK cells are rarely a problem. Instead, research now indicates that it is the activity of the cells that generally determines whether one is sick or healthy. As long as the NK cells are active, everything remains under control. If NK cells lose their ability to either recognize or destroy the invader, however, the situation can deteriorate rapidly. In AIDS and cancer patients, NK cell activity is likely the main criterion for estimating the chances of survival. It's pretty much accepted that when NK cells cease to function, the end is near.

Chronically low NK cell activity may also be linked to a long list of other common problems that manifest long before more serious diseases like cancer show up. This might include: ongoing sinus or respiratory infections, recurrent infections, wounds or tissue damage that is slow to heal, gum and oral cavity inflammation or infection, heart disease associated with inflammatory markers, slow-healing gastrointestinal ulcers, chronic allergies, and recurring toxicity.

Studies have found that AHCC has the ability to increase NK cell activity through several mechanisms.

- AHCC increases the number of explosive granules in NK cells. The more granules or "ammunition" NK cells have, the more cancer cells and other pathogen-infected cells they destroy.
- Oral ingestion of AHCC increases levels of interferon, a potent compound produced by the body that has been shown to inhibit the replication of viruses and increase NK cell activity.
- Results from an animal study show that AHCC increases the formation of tumor necrosis factors (TNFs), which are a group of proteins that help destroy cancer cells.
- In addition to increasing NK activity as much as 300 percent (or even higher), AHCC also increases the activity of other key immune cells, like T cells (200 percent) and B cells (250 percent). *(Anticancer Drugs 98;9(4):343–350) (Int J Immunother 95;11(1):23–28)*

AHCC Improves Your Defenses From the Front Line to the Back End

I should mention that many of the studies involving AHCC focused on its ability to work adjunctively with traditional cancer treatments. Although most of the researchers I've spoken with definitely recommend taking AHCC at the very first sign of cancer, they didn't rule out using conventional therapies along with the product. It goes back to the idea that the NK cells should be there on the "front line" of the battle as early as possible, but it's important for them to complete the cleanup after the battle by searching for and destroying isolated or stray cancer cells that might remain. Studies have shown that AHCC can help in slowing or preventing the metastasis or spread of cancer to other parts of the body. AHCC can also be effective in reducing many side effects associated with conventional cancer therapies.

Other research indicates that AHCC can reverse the condition known as cervical dysplasia. This condition refers to the presence of abnormal or pre-cancerous cells detected during routine Pap smears. They are pre-cancerous because of their propensity to develop into cervical cancer. Taking AHCC can result in a return to normal tissue in the area in as little as six months.

AHCC is non-toxic and poses no danger or ill effects from long-term use. And, unlike

chemotherapy, radiation, or other therapies that destroy healthy tissue along with the cancer cells, AHCC doesn't directly destroy any tissue. It only makes your immune system more effective at targeting cancer cells and pathogens. In my opinion, adding AHCC into the mix of cancer treatment protocols can increase the chances of being able to recover from the disease and protect against reoccurrence.

Recommendations

For a maintenance dose I recommend 1 gram per day of AHCC. For maximum effectiveness during the active phases of a problem, the recommended dose is 3 grams per day.

At 1 gram per day, you can expect to experience a strong increase in NK cell activity in about four weeks. At the higher dose of 3 grams per day, the effect will generally be evident within one to two weeks. (You'll be able to tell; you'll start feeling better.) Once the NK cell activity increases, the dosage can be dropped to 1 gram and the activity will still continue to increase. I would also suggest dividing the daily dosage, whether it be 1 gram or 3, and taking part of it with breakfast and part with dinner.

AHCC is somewhat expensive compared to most supplements. But, when you consider what AHCC can do, it may be the supplement bargain of the century. The AHCC used in much of the research I've mentioned is sold as ImmPower. It can be purchased from The Harmony Company (*www.theharmonyco.com* or 888-809-1241).

Although their research is supportive, don't expect the company to start promoting the product as a treatment for cancer, AIDS, or any of the other diseases I've discussed. AHCC is not an approved drug. All that can be said legally is that it has been proven to have positive immune-enhancing effects. As long at it stays on the market, that's good enough for me. It would be a travesty to lose this therapeutic jewel.

DIM: Cancer Fighter Found in Broccoli and Cabbage

Several years ago, the lead article in my newsletter *Alternatives* reported that you could reduce your risk of getting various cancers by including cruciferous vegetables in your diet. At that time, all the research I had uncovered focused on helping to *prevent* cancer with these vegetables, not on the treatment of existing cancer. (For one of the latest discoveries on how cruciferous vegetable consumption can help reduce cancer risk see the box on page 8.) However, in more recent years, research has shown that they can be used to treat cancer as well. In one such study, Dr. Maria Bell and her colleagues at the Louisiana State University Medical Center found that a natural extraction of indole-3-carbinol (I-3-C) from these vegetables can help reverse the most common form of cervical cancer.

I-3-C is a compound found naturally in cruciferous vegetables such as cauliflower, broccoli, bok choy, Brussels sprouts, cabbage, cress, kale, mustard, radish, horseradish, turnip, rutabaga, and kohlrabi. When these vegetables are crushed, chewed, or exposed to an acid environment, like that in the stomach, I-3-C is changed into another indole called diindolylmethane (DIM).

Targeting Bad Cells

We now know that DIM has the unique ability to modify the metabolism of estrogen. This capability led Dr. Bell and her colleagues to focus on the extracts of these vegetables for treating estrogen-mediated cervical cancer. Thirty women with stage II and stage III cervical cancer were involved in the study, which lasted only 12 weeks. Ten women took a placebo, ten took 200 mg of I-3-C daily, and ten took 400 mg of I-3-C daily. After 12 weeks, none of the women taking the placebo showed any regression of their cancer. Four of those taking 200 mg

of I-3-C daily and four of those taking 400 mg experienced complete remission. At the conclusion of the study, all patients were given Pap smears, a colposcopy, and a biopsy to verify these findings. *(Gynecol Oncol 00;78(2):123–129)*

Dr. Bell reports that additional research is planned, but instead of using I-3-C, researchers will be using DIM. DIM appears to have several advantages over I-3-C. First of all, I-3-C is inactive until it is transformed by stomach acid into DIM. We tend to produce less acid in our stomachs as we get older, which makes foods more difficult to digest and probably inhibits the conversion of I-3-C to DIM. Also, I-3-C is very unstable. Some reports have cited reduced effectiveness over time because of its short shelflife. Using pure DIM overcomes these problems. DIM needs no conversion in the stomach and is very stable. It also appears to be effective at lower doses than I-3-C. Since these compounds are natural components of vegetables, they have the added benefit of being non-toxic. And best of all, they are currently available as nutritional supplements.

Broccoli Cuts Smokers' Risk of Lung Cancer

Researchers have discovered that smokers who consume cruciferous vegetables can dramatically reduce their risk of developing lung cancer. These findings were presented at the 7th Annual AACR Conference on Frontiers in Cancer Prevention Research.

I've always been a very big proponent of consuming the sulfur-containing cruciferous vegetables. This study gives additional support to their powers by showing that an increased intake can reduce the risk of developing lung cancer by anywhere from 20 percent to 55 percent. Obviously, the more a smoker ate of these vegetables the lesser the risk. The ability to cut one's risk in half is definitely no small feat.

If someone you know won't or simply can't quit smoking, then at least let them know that eating generous portions of broccoli, cabbage, kale, and Brussels sprouts can cut their chances of dying from the habit.

Hope for Other Cancers, Too

Beyond cervical cancer therapies, Dr. Bell's research opens up a new phase in the natural treatment of estrogen-mediated cancers. DIM is not a plant estrogen or phytoestrogen. Instead of mimicking estrogen like a phytoestrogen, DIM has been shown to exhibit three specific mechanisms that can help reduce risk of cancer.

1. Reduction of the activity of estrogen receptors in the body. *(Carcinogenesis 98;19(9):1631–1639)*
2. Promotion of "selective cell death," which helps in the body's removal of malformed and/or damaged cells. *(Anticancer Drugs 98;9(2):141–148)*
3. Promotion of the beneficial metabolism of estrogen in the body. *(Proc Soc Exp Biol Med 97;216:246–252)*

By making sure that estrogen in the body is broken down into only its beneficial components, DIM can help prevent the growth of cancers that feed off the harmful byproducts of estrogen. In addition to cervical cancer, DIM may be useful in treating breast cancer in both men and women, prostate cancer, uterine cancer, and lupus erythematosus—all cancers that have been linked to higher estrogen levels. DIM may also be helpful in mitigating the increased cancer risk associated with female hormone replacement therapy, increased alcohol consumption, and the use of DHEA.

More recently, a group of researchers at Wayne State University believe that they have discovered how DIM works to stimulate apoptosis (scheduled cell death) and inhibit angiogenesis in prostate cancer. *(J Biol Chem 07;282(29):21542–21550) (Cancer Res 07;67(7):3310–3319)* The Wayne State studies were performed in the lab on human cells, but they

help explain the results seen in an earlier unpublished study. In a group of 12 men taking 100 mg of DIM daily for three months, PSA levels decreased in 11. Two of the men had what's known as PIN, or prostatic intraepithelial neoplasia, essentially cancer that hasn't yet invaded the main tissue of the gland. By the end of the study, the PIN had disappeared in both men.

It may take several years before we fully understand the benefits of DIM. However, we know that the indoles from simply eating cabbage once a week can dramatically lower the risk of developing cancers of the esophagus, lung, bladder, colon, and rectum. *(Am J Epidemiol 79;190(1):1–20) (Cancer Res Suppl 83;43:2409s–2413s)* Past research would suggest that a form of cancer brought into remission by using DIM would be prevented from recurring by a diet rich in cruciferous vegetables. If you have a family history of cancer, I would highly recommend including cruciferous vegetables in your diet at least three or four times weekly. And if you have one of these cancers, DIM certainly appears to be a strong natural treatment option.

How to Take It and Where to Get It

While dosages of DIM can vary slightly from one individual to another, therapeutic daily doses generally range from about 2–4 mg per pound of body weight. For someone weighing 150 lbs, the daily therapeutic dosage would normally be 300–600 mg.

DIM is available in either 75- or 150-mg capsules from BioResponse (877-312-5777 or *www.bioresponse.com*). BioResponse has done much of the cancer research with DIM to date. (This is a small company, so please be patient while placing your order.) Another source that sells a Tyler Encapsulation DIM product, Indolplex, is N.E.E.D.S. (800-634-1380 or *www.needs.com*). *Note:* When you call, please be aware that neither of these companies will give treatment information over the phone.

A Bone of Contention

The only concern that has arisen with I-3-C and DIM is the possibility that, if taken for long periods of time, they might decrease bone density. It has been reported that individuals who have taken high doses of I-3-C continuously for four to six years to help control an incurable disease (recurrent respiratory papillomatosis) had a decrease in their bone density test scores. Whether the estrogen-altering effect of I-3-C was responsible for the bone loss has not been determined. But if I had to choose between getting rid of cancer and the possibility of bone density loss, I could live with the bone loss. Even if bone loss does occur, I suspect that it would take several months of high dosage I-3-C or DIM usage for that to happen. Just for the record, I should also mention that the quantity of indoles you get from eating cruciferous vegetables is far less than in the extract, so there shouldn't be any concern about overconsumption of the vegetables.

A "Miraculous" Cancer Therapy

By now it should be rather obvious that there's a considerable amount of research confirming the effectiveness of natural cancer treatments. Perhaps one of the most researched natural treatments is a wheat germ extract known as Avemar. Research began on the compounds in Avemar over 50 years ago. And since the development of Avemar in the mid-'90s, there have been over 100 studies on Avemar in the treatment of cancer. Let me tell you the story of Avemar.

Several years ago, I was approached by a Hungarian man living in Australia who wanted to tell the world about a "miracle" that saved his wife from dying of breast cancer. Without much success, he had been phoning doctors all over that country trying to tell them how they could save the lives of other cancer patients simply by using this "Hungarian powder." Soon after, I

began the long and tedious process of investigating this miraculous (but really foul-tasting) powder. The story became even more intriguing when I learned that the product was linked to the late Nobel Prize-winning Hungarian biochemist Albert Szent-Györgyi.

Györgyi developed a keen interest in finding a cure for cancer after World War I when he learned mustard gas derivatives were being used as a form of treatment. His work in the field of cancer intensified after losing both his daughter and wife to the disease. After he emigrated to the US following World War II, his cancer research was based on his theory that certain naturally occurring compounds called quinones (along with similar compounds) could be instrumental in helping to control the proper metabolism in cells. Uncontrolled metabolism and rampant cell division is a defining characteristic of cancer. Györgyi noted that wheat germ is a potent source of these quinone compounds, and he suggested that they could be concentrated further through fermentation with baker's yeast. This suggestion was the beginning of the powder that I mentioned earlier.

Györgyi's early research experiments were very promising. His theories about specific quinones found in wheat germ, and their ability to inhibit cancer, appeared to be correct. Just as his work was gaining momentum, though, his concept of regulating metabolism to prevent or control cancer was overshadowed by the new "war on cancer" and the belief at the time that cancer therapies should concentrate on killing cancer at any cost. As a result, Györgyi's work suffered from funding problems and was largely overlooked. He died in 1986, with his research unfinished.

Picking Up the Trail

In the early 1990s, the fall of communism in Eastern Europe opened the door for more freedom, particularly in the field of scientific research. This sudden scientific freedom allowed Dr. Máté Hidvégi, also of Hungary, to resume and build on Dr. Szent-Györgyi's initial work. And it was Dr. Hidvégi who actually developed the first fermented wheat germ extract for human consumption.

Dr. Hidvégi's initial work was also limited by a lack of funding. At one point, his personal finances were completely exhausted. A highly devoted and dedicated Catholic, Dr. Hidvégi prayed to Mary, Mother of God, to ask for guidance and help. The very next day he was approached by someone willing to provide the needed funding for his research. To show his thanks, Dr. Hidvégi named the extract product Avemar, in honor of Ave Maria ("Hail, Mary" in Latin).

Since that time, a significant amount of research on Avemar has been undertaken—not only in the laboratory, but in test animals and human cancer patients as well. Over 100 reports have been written for presentation or publication since 1996. Once this data becomes known, I suspect Avemar will very quickly become an integral part of cancer treatment by both mainstream and complementary practitioners.

A Myriad of Possibilities

A discovery like Avemar would be considered promising if it were effective in the treatment of just one or two forms of cancer. What is so amazing about Avemar is that it does not appear to be specific to any one particular type of cancer. Instead, both in the laboratory and in all the follow-up animal and human studies undertaken thus far, Avemar has been effective against *all* cancer cell lines tested. Here's a sampling of the research.

Beating Breast Cancer

One of the latest studies concerning Avemar dealt with breast cancer. In the study, Avemar was

compared to the most widely used drug therapies for breast cancer: tamoxifen, Aromasin, and Arimidex, all of which affect either a woman's level of estrogen or the ability of her body to respond to estrogens. The results of this head-to-head comparison, presented at the 2007 American Society of Clinical Oncology meeting, sent some shock waves throughout the cancer treatment community.

Avemar inhibited the growth of one type of estrogen-sensitive breast cancer by 50 percent, compared to tamoxifen's 34 percent. In a second type of estrogen-sensitive breast tumor, Avemar inhibited the growth by 49 percent, compared to tamoxifen's 42 percent. Avemar was also shown to work better than either of the other two drugs, Aromasin or Arimidex. When Avemar was used along with the conventional drug therapies, it increased their ability to inhibit or slow the tumor growth by an additional 5 to 10 percent in one of the estrogen-sensitive tumor types.

One other very important finding was that Avemar was also able to inhibit tumor growth in forms of breast cancer that are not estrogen-dependent. None of the other three conventional drugs had any effect. From a practical standpoint, this study showed that none of the pharmaceutical anti-estrogen drugs were as effective as Avemar alone. (*J Clin Oncol. American Society of Clinical Oncology, 43rd Annual Meeting Proceedings, Abstract 21132:25(18S)*)

Combating Colorectal Cancer

One controlled study involved 170 people with colorectal cancer. Researchers contrasted the effects of using Avemar plus conventional "standard of care" treatments—surgery, radiation, and chemotherapy—with the results of conventional treatments alone. The benefits of adding Avemar were remarkable, to say the least. The addition of Avemar resulted in an additional 82 percent reduction in new tumor recurrences, a 67 percent reduction in metastases, and a 62 percent reduction in deaths. *(Br J Cancer 03;89(3):465–469)*

Another study involved 30 patients with advanced colorectal cancer. All the patients underwent surgery, and 12 of them began taking Avemar. At the end of the nine-month observation period, there was no disease progression in any of the patients on Avemar. However, in the control group, three patients had died from the disease and another had developed metastatic tumors. *(Hepatogastroenterology 00;47(32):393–395)*

A third study involved 34 patients suffering from advanced adenocarcinoma of the rectum or lower colon. After corrective surgery, 17 received the conventional treatment and the other 17 received conventional treatment plus Avemar. Forty-six months later, those on the Avemar had significantly longer survival rates. *(Magy Seb 04;57(3):168)*

Managing Melanoma

A study at the N.N. Blokhin Russian Cancer Research Centre in Moscow involved 46 stage III melanoma patients characterized as being at "high risk" for recurrence and death from the disease. (Melanoma patients are considered "high risk" especially if they have clinically detectable lymph node involvement.) Some of the patients received only conventional treatments, while the others received conventional treatments plus Avemar.

Researchers found that the use of Avemar increased the overall survival time of the patients. After one year, 75 percent of the conventional treatment-only patients had progressive disease, in contrast to only 36 percent of those whose therapy included Avemar. *(18th UICC International Cancer Congress, Oslo, Norway 2002)*

Overcoming Oral Cavity Cancer

In a study submitted for publication, Avemar combined with conventional treatments was compared to the use of conventional treatments alone in 43 patients with stage III or stage IV oral cavity squamous cell carcinomas.

After a period of 12 months, those using Avemar experienced only a 4.5 percent incidence of recurrence of cancer at the original site, in contrast to 57.1 percent in the control group. Additionally, the Avemar group had a disease progression incidence of 9.1 percent in contrast to 61.9 percent in the control group. The researchers determined that adding Avemar to the treatment program reduced the risk of overall progression of the cancer (death, new tumors in the initial area, new metastases, et cetera) by 85 percent.

Not Throwing the Baby Out With the Bath Water

One of Györgyi's concerns long ago was the immune suppressive effects of conventional cancer therapies, which focus on interrupting the proliferation of cancer cells by directly inhibiting DNA and RNA synthesis. The therapies are non-specific, so they destroy normal, healthy cells as well. Thus, the attempt to kill the cancer cells often kills the patient as well—which, as the old saying goes, is like throwing the baby out with the bath water.

It was Györgyi's search for a biotherapy that would stimulate rather than suppress anti-tumor immune mechanisms that led to his work with fermented wheat germ. To say Avemar works a little differently would be a gross understatement. *(Szent-Györgyi A: The living state, with observations on cancer. Academic Press, New York, 1972. p.71) (Int J Quantum Chem: Quantum Biol Symp 82;9:27–30)*

Research indicates that Avemar works through several different mechanisms. One of its most unique benefits, however, is its ability to inhibit glucose metabolism in cancer cells. Research at UCLA has demonstrated that Avemar reduces glucose flow into cancer cells—which inhibits their ability to produce additional nucleic acids and subsequently reduces their proliferation or growth. In the presence of Avemar compounds, cancer cells begin to utilize the available glucose to produce substances that actually inhibit cell division and stimulate programmed cell death (apoptosis) within the tumor.

As one yet unpublished report explains, decreased glucose consumption of the tumors results in a harmonizing of the patient's metabolism—as well as weight gain, even in people with advanced cancers. As a result, patients treated with Avemar also have improved tolerance for surgery, radiation, and chemotherapy. Further, Avemar achieves these results without creating any toxicity or damage to normal, healthy cells. *(Ann NY Acad Sci 05; 1051:529–542)*

This particular feature of Avemar explains why cancer patients using the product routinely experience an improved quality of life. They have less fatigue, pain, and depression, and experience an increase in appetite that can help them regain lost weight. (*Medicus Anonymus/Pulmono 03;11(Suppl 1):13–14*) (*24th Congress of the Hungarian Cancer Society, Budapest, Hungary 2001*)

Used With Conventional Therapies

Not only is the use of Avemar free of toxic and adverse effects, it has the added benefit of being able to protect cells against such effects caused by conventional therapies. For instance, following radiation and chemotherapy, it has been demonstrated that Avemar was successful in restoring the bone marrow's ability to produce red blood cells—which should be a godsend to anyone receiving cancer treatment. (*1st Congress of the Hungarian Society of Clinical Oncology. Budapest, Hungary 2000*)

Suppressing Treatments—Instead of Cancer

Treating cancer is big business in this country, and the pharmaceutical companies have a lot of future profits riding on the idea that an inexpensive, safe cure won't be found anytime soon. And, unbelievable as it may sound, they are willing to invest an obscene amount of money, time, and effort to make sure such a cure isn't readily available to the masses.

In January 2007, there was a press release from the University of Alberta, Canada, discussing a possible cancer breakthrough utilizing the chemical dichloroacetate (DCA). In rat studies, the inexpensive chemical shrank tumors by 75 percent in just three weeks. Like Avemar, DCA works by inhibiting glucose metabolism in cancer cells.

DCA has been used for years to treat a condition called lactic acidosis, and the researchers at the University of Alberta said they had a few reports that it had been used to treat cancer successfully with relatively little toxicity. When they put out their press release, they were hoping to move their research efforts beyond the laboratory and begin human clinical trials. Although the drug had been in use for over 20 years, it hadn't been studied that extensively for cancer use. To complicate matters, DCA is very inexpensive and can't be patented—so no pharmaceutical company (or pharmaceutically controlled government agency) was going to fund the necessary studies.

Web sites popped up in the US selling the chemical over the Internet, but the FDA quickly stepped in and stopped that (*www.buydca.com* and *www.thedcasite.com*).

What happened next is nothing short of a miracle. Donations began to pour in from all over the world. People held bake sales. One Canadian girl sent a check for $75, money she made from selling drink coasters. Another gentleman reportedly sold coffee and donuts and donated that money. Within 8 months the researchers had $800,000 and have now started a clinical trial involving 50 patients who have brain cancer.

Of course a positive result using DCA in rats doesn't necessarily mean it will work the same way in humans. Many treatments that have been shown to shrink tumors don't increase survival times in the long run. But the fact that a clinical trial got started despite the best efforts of the FDA speaks volumes about the demand for safe and inexpensive treatment alternatives.

In all of the studies where Avemar was used in conjunction with conventional therapies, not only were those therapies significantly more effective, but the patients experienced considerably less therapy-related side effects. Both the frequency and severity of common side effects like nausea, fatigue, weight loss, and depression were reduced. Additionally, their immune systems recovered more rapidly. (*Pharmindex Handbook of Oncology 2004/2005. CMP Budapest, 2004. p. 611–617*) (*Cancer Biother Radiopharm 04;19(3):343–349*) (*Cancer Biother Radiopharm 04;19(6):746–753*) (*Cancer Biother Radiopharm 99;14(4):277–289*)

How Good Is Avemar by Itself?

As for Avemar being effective on its own, the early animal and cell line studies seem to indicate this might be the case—but just how effective is hard to tell. In practically all of the studies, Avemar has been used in conjunction with other conventional cancer therapies. It would seem reasonable that it would also be of benefit with alternative forms of cancer treatment, but at this point the research isn't there to support that. I can say, however, that if I were diagnosed with cancer, I would include Avemar in my program regardless of what other forms of therapy I chose to use.

One very significant finding, consistent in practically all of the Avemar studies, is that Avemar is particularly effective at reducing metastasis. It is well known that the capability of the immune system has a big influence on the incidence of cancer metastasis. Research has shown that Avemar can dramatically boost the response and effectiveness of the immune

Let the Sun Shine in

The public has heard only part of the story when it comes to the benefits of sunshine. Obviously, excessive exposure that results in sunburn isn't a benefit at all. However, moderate amounts of sunlight, along with a varied diet containing nature's protective antioxidants, vitamins, and fatty acids (omega-3s) is actually beneficial and has been shown to help prevent many forms of cancer—including skin cancer. Lifetime sun exposure was actually shown to result in a lower risk of developing melanoma. *(J Invest Dermatol 03;120(6):1087–1093)*

Past studies have shown that individuals who utilize sun exposure reasonably have a lower incidence of colon, breast, and prostate cancers, multiple sclerosis, osteoporosis, hip and vertebra fractures, et cetera. Many of these results are related to vitamin D—which is necessary for enabling calcium to be absorbed from the gut. Deficiencies in vitamin D result in rickets, osteoporosis, and weak and fragile bones.

It should come as no surprise that vitamin D deficiencies aren't a problem in the tropics where people spend more time outside, or that osteoporosis, hip and spinal fractures, cataracts, and colon and prostate cancer are also less common. I have no doubt that our fear of sunlight is contributing to a wide range of health problems, and not, contrary to popular belief, doing us any good in terms of lowered skin cancer risk. And, in the years to come, I think we'll see more and more research indicating that skin cancer risk is linked very closely to a person's diet.

Over 20 years ago it was discovered that vitamin D has an "anti-proliferative" effect on cells. In other words, vitamin D can stop cells from multiplying out of control (i.e., from developing into cancer). Your body has only two sources for vitamin D. The first is from foods such as oily fish, fortified dairy products, organ meats, and eggs. The second is from your own skin cells, which use the same "cancer-causing" UV rays from the sun to convert a form of cholesterol into vitamin D.

In addition, those who consume more fish and omega-3 foods and fats that are mono- and polyunsaturated—like the typical diet in the tropics—have a reduced incidence of melanoma. On the other hand, those consuming more of the omega-6 oils (the vegetable oils that are now so pervasive throughout our food supply) have increased rates of melanoma and other skin cancers. So, if you want to protect yourself, I recommend spending a little time outside in the sun (15–30 minutes, three times a week) and incorporate vitamin D- and omega-3–rich foods into your diet.

system—even when it is not totally intact. This suggests to me that Avemar could be useful at any stage of the cancer process (even in the more advanced stages, when the body's immune system can be severely impaired). *(Anticancer Res 98;18(4A):2353–2358) (Cancer Biother Radiopharm 99;14(4):277–289)*

Getting and Taking Avemar

Avemar is produced in Budapest, Hungary, by Biromedicina, but in the US it is sold under the name AvéULTRA. It's available through The Harmony Company (888-809-1241 or *www.theharmonyco.com.*)

AvéULTRA is conveniently packaged in individual packets, each containing 8.5 grams of Avemar—the recommended single daily dose for a 70 kilogram (154 lb.) adult, and the amount given in the clinical studies. Each packet is to be mixed with 8 ounces of cold water and then consumed either an hour before or an hour after a meal. Additionally, it should be taken either two hours before or two hours after taking any other drugs and dietary supplements—particularly vitamin C. (In some tumor models, Avemar taken by itself had a greater inhibitory effect on metastasis formation than did Avemar plus vitamin C—thus the recommendation to separate the two to obtain the maximum benefit.)

The body of research supporting Avemar continues to grow. I'm sure you'll be hearing more about it. Fortunately, the use of Avemar is

gaining the support of more and more oncologists around the country. And the fact that it's a natural product means that it's still readily available directly to the public. We can only pray that it stays that way.

Selenium Inhibits Tumor Growth

Almost daily, there's new research released touting the benefits of getting adequate amounts of minerals from your diet. One trace mineral that has received a lot of attention is selenium. It's been called a "cure-all for whatever ails you" by some, and totally insignificant by others. As is usually the case, its importance probably lies somewhere in between.

Selenium is a powerful antioxidant that protects cell membranes by neutralizing destructive free radicals. It slows down the metabolism of cancer cells and inhibits not only tumor growth, but also the growth of tumor cells that have spread to distant parts of the body. It enhances the immune system and helps regulate thyroid hormone levels. These specific attributes help explain the often overlooked connection between selenium intake and the incidence of cancer.

Selenium intake has been shown to be low in the US, as well as in many of the Nordic countries (Sweden, Denmark, and Norway). *(Int Clin Nutr Rev 89;9(2):68–75)* While the RDA for selenium is around 70 mcg, this appears to be far too low for optimal health. Even worse, the average daily intake in this country is probably somewhere in the neighborhood of 25 to 50 mcg.

In many studies, both in this country and abroad, selenium has been shown to help prevent or delay the appearance of cancer. Patients with either low blood levels or diets low in selenium had proportionately greater incidence of cancer of the ovary, breast, prostate, rectum, colon, esophagus, stomach, liver, lungs, and lymphatic system. *(Brit Med J 85; 290:417) (Bioinorg Chem 77; 7:23) (Biol Trace Elem Res 85;7:21)*

People who live in areas where there is selenium-rich soil have far less risk of developing cancer. Canadian researchers found this to be especially true concerning cancers of the organs that come into direct contact with selenium-rich foods (mouth, throat, stomach, small intestine, colon, rectum, kidney, and bladder). *(Can Med Assoc J 69;100(14):682)* A decrease in the incidence of breast cancer has also been found in these groups.

In another study, researchers compared blood selenium levels to the number of cancer deaths in 190 different US cities. Lower selenium blood levels were associated with increased cancer deaths. *(Crit Rev Clin Lab Sci 71;2:211–221)* These same findings have proven true in worldwide evaluations.

Selenium Toxicity

Most researchers and doctors won't openly endorse selenium supplements because too much selenium can be toxic. The beneficial and toxic levels are so close that most authorities prefer to avoid the subject of dietary supplementation altogether. But when you consider the enormous benefits and protection this trace mineral can provide, I think this is a serious mistake.

The trappings of modern society tend to increase your need for selenium. Factors like increased alcohol consumption and/or exposure to substances like cadmium, copper, and lead—metals that can leach from pipes supplying drinking water—can lower selenium levels.

The truth is, more is not necessarily better in the case of selenium. While the exact amount that will lead to toxicity varies from individual to individual, a safe daily intake appears to be in the 250–400 mcg range. Even though selenium toxicity is rare, you should be aware of some telltale signs: garlic-smelling breath, sweat, and urine; intestinal

A Tea of a Different Color

White tea is not tea with cream, but a rare variety of Chinese tea that has been shown to have an even higher concentration of antioxidants than green tea. (I still regularly consume green tea, however.)

White tea is grown on China's East coast, in the Fujian province, and is the least processed of all teas, which probably accounts for its strong antioxidant capabilities. Preliminary research from the Pauling Institute suggests that it may be effective in the prevention of cancer. Before I share the results with you, let me underscore that this research is relatively new, and more work needs to be done.

This very interesting study indicates that an extract of white tea applied topically can boost immune capabilities within the skin and protect it against sun damage. Scientists applied the extract to the skin on one buttock and left the other unprotected. After being exposed to artificial sunlight, the two patches of skin were carefully analyzed.

The white tea extract protected the Langerhans cells in the outer layer of the skin, which is the immune system's first line of defense in detecting invading germs and mutated proteins produced by cancerous cells. The scientists also discovered that DNA damage to cells was very limited where the extract was applied compared to the unprotected areas. Not only did the extract protect against the sun damage, it could also help reduce wrinkling and aging of the skin.

There are several mail-order sources for white tea:

- Generation Tea, *www.generationtea.com*, 866-742-5668
- Tribute Tea, *www.tributetea.com*
- Adagio Teas, *www.adagio.com*.

The white tea I've tasted was somewhat pale in color but very flavorful. And since the chemical structure is similar to black and green teas, I suspect there would be a noticeable benefit to topically applying those teas as well as drinking them.

problems; kidney or liver impairment; arthritis; and eruptions and yellowish tinting of the skin.

Natural Selenium Sources

Good food sources of selenium are generally the high-protein foods: red meat, fish, shellfish, poultry, eggs, breads, and many whole-grain cereals. The yeast content of these foods can vary considerably, depending on where they were produced. For example, in many of the research studies, beef raised in South Dakota, where the soil is rich in selenium, is used in high-selenium diets. In contrast, low-selenium beef from New Zealand is placed on low-selenium menus.

Brewer's yeast is another source of selenium, but probably the best and most overlooked source is nuts. Sunflower seeds and cashew nuts are good choices and can provide anywhere from 10 to 80 mcg per 3.5 oz serving. My favorite selenium source is Brazil nuts. A single ounce of these powerhouses contains between 300 and 860 mcg of selenium. Obviously, you don't want to get carried away with Brazil nuts, but a couple of nuts every other day or so is fine.

* * *

Cancer is a serious, confounding disease because there are so many variables involved in its onset, progression, and treatment. Oftentimes, the conventional protocols are more devastating than the disease itself. That's why I'm thrilled to share with you some true, natural gems that you can use to safely and effectively wage war against cancer.

Dr. David Williams

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