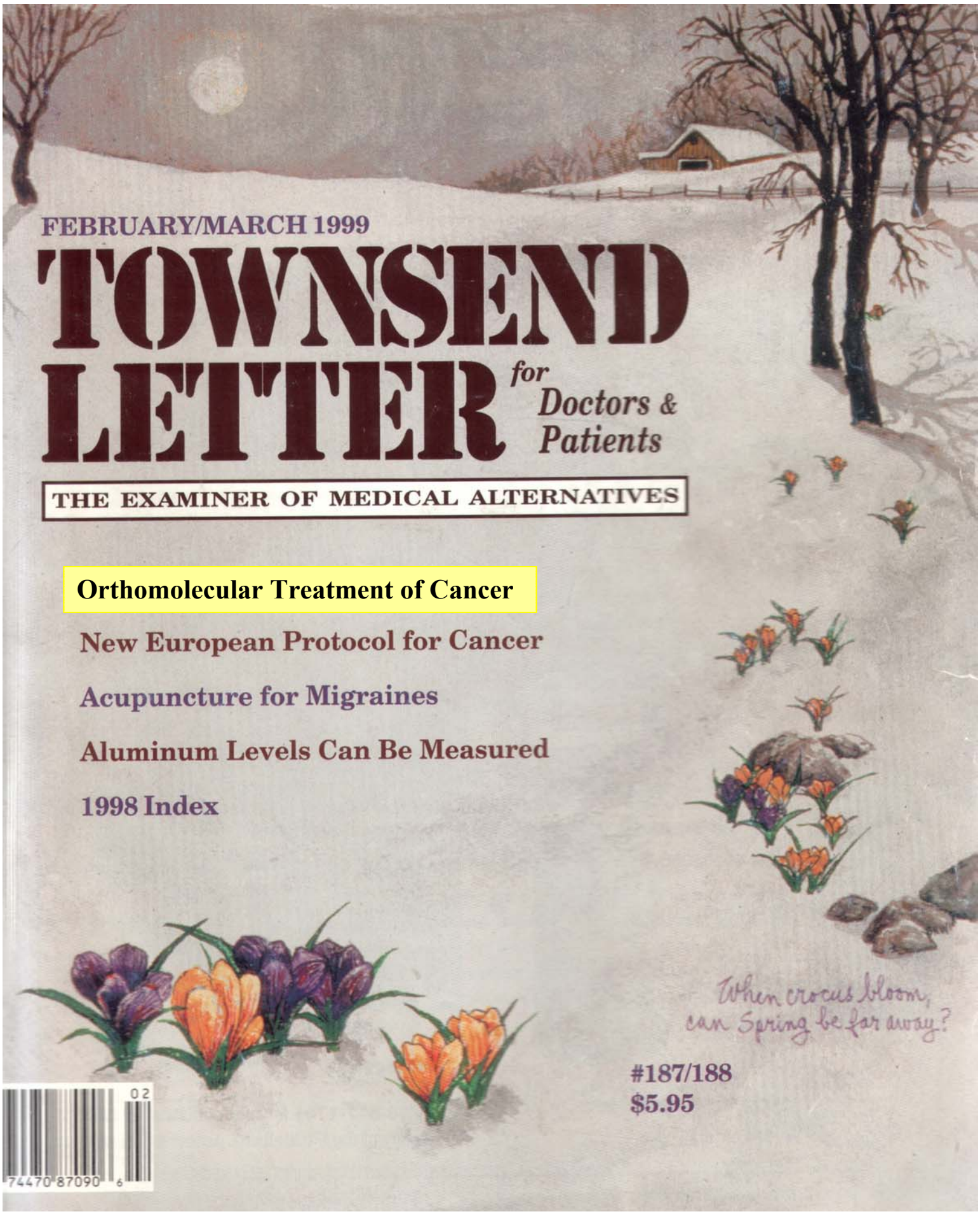

FEBRUARY/MARCH 1999

TOWNSEND LETTER *for Doctors & Patients*

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Orthomolecular Treatment of Cancer

by Professor Serge Jurasunas

For 25 years I have been involved with cancer – having treated over 20,000 patients whose malignancies have covered the entire spectrum of types, grades and involved organs. And I have learned an important lesson: Aside fiom specific compounds and treatment protocols, nutrition and whole foods are not only important for support but they are in fact, essential in overcoming a condition like cancer.

"Orthomolecular medicine" is the key phrase to describe the above.

My knowledge of nutritional therapy began with Dr. Bernard Jensen in 1964-67. I was able to spend a good deal of time with this pioneer of nutrition and bowel cleansing while visiting his Hidden Valley Health Ranch. There, I saw some cancer patients who were improving simply by including raw vegetable juices and goat milk in their diets, along with supplements. I asked myself, "How is it possible that natural food can heal?"

We know the answer now – but during those early years nutrition was always neglected, particularly at the therapeutic level. Several decades and much pioneering research later, we realize that both the regression of cancer and even the extension of life can be greatly influenced by proper nutrition.

Even today, hospitalized cancer patients usually are eating the wrong foods and receive no dietary advice for their followup treatments.

In research over the past several decades it was found that significant numbers of people were lacking adequate levels of various nutrients – which almost immediately focused attention on cancer and dietary connections.

In *Nutrition and Cancer: State of the Art*, Dr. Sandra Goodman succinctly condensed more than 5,000 scientific and medical reports on the nutritional/cancer connection.[1]

And Drs. Stephen Levine and Parris Kidd suggested that cancer might primarily develop from genetically-damaged cells which were deficient in antioxidant nutrients and thus susceptible to mutation.[2] Recent research has shown that cells treated with radiation, which produces reactive oxygen species (ROS), or exposed directly to oxidants, can be transformed into cancer cells.[3]

Administration of Vitamin C or E with selenium prior to radiation markedly reduces rates of malignant cellular transformation. We know that DNA damage caused by ROS and certain lipid peroxides produces a large array of altered molecules.

Hydroxy radicals or singlet oxygen can convert a guanine base to 8-hydroxyguanine which, if not managed by DNA repair enzymes, results in a specific mutation when a cell divides. According to such scientists as Carmina Borek, ROS cause genetic damage, but supplemental antioxidant vitamins are key factors in protecting against this process at an early stage.[4]

Metabolic activity in cellular mitochondria also produces ROS called superoxides, negatively charged oxygen molecules which normally are converted into hydrogen peroxide by the enzyme superoxide dismutase (SOD).

Normally, the potentially dangerous hydrogen peroxide is deactivated by another enzyme in cellular peroxysomes and converted into harmless oxygen and waste by the enzyme glutathione peroxidase. But as cells age (or are genetically damaged) the necessary conversion enzymes are not produced fast enough. So superoxide radicals and hydrogen peroxide begin to accumulate, an activity which may force a cell to switch from an aerobic to an anaerobic state.

Health and disease, then, may be connected to cellular mitochondria. Various lines of research and experience[5] suggest that the health of a cancer patient improves stepwise through enhancement of cellular respiration, since through such stimulation regulating systems and endogenous synthesis mechanisms – hormone synthesis, for example – are starting up again.

Animal research has shown that intoxication of cellular respiration leads to the inhibition of oxidative phosphorylation in healthy specimens. A condition of toxic cell respiration results in a substantial drop in respiration centers (mitochondria count). Subsequent generations demonstrate disturbed mitochondria and a considerable loss thereof, just as is evident in malignant cells.

Dr. Paul Seeger's significant discovery was that the inactivation and destruction of the most important enzyme in the mitochondrial respiratory chain – cytochrome oxidase (cytochrome a/a3) – may be the prime cause of cancer.[6] More recently, researchers have found that there is a 15% decrease in cytochrome oxidase activity in Alzheimer's disease.[7]

In some diseases there are factors which affect mitochondrial functions in a similar way which may lead to somatic mutation through free radical activation. These include genetic elements which act as if they were oxidative enzymes and antioxidant-rich diets.

Too, since cytochrome oxidase a/a3 is the enzyme responsible for transferring hydrogen (derived from foods in the diet) to the oxygen delivered by hemoglobin, hydrogen accumulates in cancer cells, forcing them to derive energy by switching from the aerobic to the phylogenetically older and less efficient fermentation mode.

These vital scientific facts are completely overlooked by present-day "orthodox" approaches to cancer – yet they are absolutely essential to an understanding of the malignant process. Only with an intact cellular respiration apparatus can all nutritive substances be "breathed in" to the mitochondria, a process which provides the energy for synthesizing mechanisms of metabolism, genetics and the immune system. Hence, recovery from disease is only possible with an intact metabolism.

My personal approach to cancer, developed over almost three decades, includes the restoration of cellular respiration through the use of specific "redox" substances. There is no doubt that the physical condition of the cancer patient improves step by step through strengthening cellular respiration – itself a pre-condition for human health in general.

The level of intestinal flora is also vital in maintaining the body's equilibrium, since such flora are both barriers to colonization by pathogenic germs and primary components of the human immune system.

Recently, extensive immunological studies carried out with a variety of microorganisms showed that preparations of the whole cells or cell-wall components of several bacteria and fungi are effective in provoking immune responses when parenterally administered to animals and humans and work as biological response modifiers.[8]

Since mucosal surfaces constitute some 200-300 m^3 of the body it is obvious that they are primary contact points with the environment.

Most of my cancer patients suffer from nutritional deficiencies before diagnosis and even more so during the earlier treatment of their disease since chemotherapeutic agents negatively affect levels of such nutrients as Vitamins E, B6, beta carotene, SOD and glutathione, hence exacerbating the inflammatory process.

Inappropriate foods consumed during the course of the disease may linger in the body longer since they are improperly digested, absorbed and excreted. The rule of thumb here is – *the greater the body's intoxication the lower the immune response*. Patients need to know that elements of what is eaten may remain in the intestinal tract for a week or more as the body struggles to detoxify itself.

We must understand that many inappropriate foods produce waste products which are deposited in the transit passages of mesenchymes, which not only interferes with oxygen transfer but also impairs the reticuloendothelial cells needed to help fight cancer.

In a lecture I delivered at the University of Urbino Institute of Holistic Medicine in Italy I pointed out that diets must contain as much natural food as possible.[9] Some recent medical research has proved that the more fresh and unprocessed food we eat, the better chance of staying healthy and being protected against disease but there also is a better chance to make cancer therapy more effective.[10]

Research also shows that natural foods contain a wide range of antioxidant and anti-carcinogenic compounds including anthocyanidins, catechins, resveratrol, flavonoid polypherols, isoflavones, and histidine, to name only a few of the more prominent.

Since so much food is now industrially processed and natural ingredients are often removed it has become difficult for patients to have access to organic food – the reason why dietary supplements have become so important.

The Health Status of Cancer Patients

In most cancer cases, we find evidence of degenerative processes and organic dysfunction. The malignant process involves general organic dysfunction, deregulation of the immune system, tissue intoxication and, in virtually every case, some damage to the intestines and liver. Indeed, the gastrointestinal and liver problems which lead to constipation are responsible for many disturbances in the body including those of the nervous system. Since excess toxins from microbial invasion are poisoning the blood, there is less oxygen and cell respiration is affected.

In a survey of 1,000 patients from our files monitored by various kinds of diagnostics and questionnaires over more than two decades, we found the following results:

Percentage of Chronic Organic Dysfunctions

Colon	100%
Liver	100%
Nervous system	100%
Skin	90%
Circulatory disorders	80%
Lung	80%
Venous congestion	50%

Toxemia

Endogenous toxins	100%
Exogenous drugs	80%
Xenobiotics	70%

Several diagnostic and monitoring techniques, including peripheral blood analysis, which can detect more than 30 blood morphologies,[11] provide evidence of nutritional and metabolic deficiencies, including oxidative stress, in these patients.

High-resolution microscopic evaluation of red blood cells is one of the best methods for determining oxidative stress, nutrient deficiency and membrane damage caused by intracellular oxygen starvation. The latter is a result of the accumulation and leakage of non-oxidized end products of glycolysis due to reduced mitochondrial function.

Red cells contain various enzymes necessary for their function and defense such as superoxide dismutase (SOD), catalase, glutathione peroxidase (G.Px), glucose-6-phosphate dehydrogenase (G6PH), and glyceraldehyde-3-phosphate dehydrogenase (GAPDH). Deficiencies of these enzymes render red cells more sensitive to membrane alterations.

A G6PH deficiency, for example, makes the membrane protein spectrine particularly sensitive to oxidative stress, which not only alters the membrane but renders it so tight it blocks the cell's ability to enter tiny blood vessels.

We have demonstrated clearly that degenerative processes and a precancerous condition may be detected through the microscopic evaluation of red cell morphology and physiology. This observation is one of the most important developments in metabolic medicine.

Staging the Nutritional Approach to Cancer

The biological approach to cancer treatment takes into account such important elements as the age of the patient, location of the tumor and its physical condition.

While we cannot fully detail individual cancer protocols here, we have classified the varying cancer stages into four categories:

1. Evolution stage
2. Critical stage
3. Irreversible stage
4. Death stage

Live Yeast Oxygen Cell Preparation

The bedrock of my method is the live yeast oxygen cell preparation, a combination of natural ingredients for nutritional support, detoxification, increase in cellular respiration and lowering of tumor virulence. The preparation includes enzymes and molecules of Krebs Cycle substrates for the restoration of enzyme activity encoded by the mitochondrial DNA.

Zell-Oxygen, developed by the late Dr. S. Wolz of Germany, once a collaborator of the late Dr. Otto Warburg, who was a pioneer in nutritional approaches to cancer, contains live yeast cells and intact mitochondria, whose billions of enzymes immediately pass from the intestine to the bloodstream to assist in the biological regeneration of the body.

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Zell-Oxygen is prepared from apple, lemon and grapefruit juices and essential fatty acids from germ oil extract. It is developed over a 55-day culturing process in the presence of oxygen to enhance the formation of Krebs Cycle substrates and mitochondrial respiratory chains.

The preparation consists of nutrients – live young oxygen cells – which are virtually identical to various biological substances in the human body, including identical repair mechanisms.

Live yeast cells prepared without heat contain intact all the enzymes of the Krebs Cycle and redox system such as glutathione. The latter is the major enzymatic defense against cellular peroxide accumulation, and may be genetically depleted. *In vitro* glutathione-depleted cells are highly susceptible to cytotoxicity by fluorouracil because their detoxification abilities have been compromised.

Live yeast cells contain: **Protein** – 46.5g per 100g of dried yeast; **Vitamin B complex** – 10g of live yeast cells covers the daily requirement of vitamins B1, B2, B5, B6, B12; **Amino acids** – contains all, including methionine, essential for detoxification; **Nucleic acids** – adenine nucleic, ribonucleic acid; **Polysaccharides** – Includes glucan and mannon, since they are particualrly useful in immune function; **Antioxidants** – Vitamins A, C, E, beta-carotene, manganese, zinc.

Live yeast cells provide substances essential for the regeneration of enzymatic respiration such as cytochrome, cysteine, methionine and choline, all of which raise membrane potential, which may fall by a tenth as the result of toxins. They also have a detoxifying effect which prevents mutagenic and carcinogenic changes.

Live yeast cells also contain coenzyme A, ubiquinone (coenzyme Q10) at a high level, cytochrome and SOD. It should be noted that Zell-Oxygen is also the richest source of glutathione.

Biochemically, Zell-oxygen (young yeast cells) regenerates the mitochondrial respiratory fermentation process. Electro-chemical measurement of the respiration of cancer cells (100 animals tested by Seeger and Schacht, 1957) showed that the proliferation rate, or virulence, of cancer cells is inversely proportional to their respiratory intensity.[11]

Thus, if the respiration of the cancer cell is reactivated by cell respiration activators or hydrogen accepters, CoQ10 levels will increase and virulence will be lowered.

According to Dutch physician Cornelius Moerman several substances, particularly yeast cells with a high enzyme content, the Vitamin B complex, Vitamins A, C, E, and iodine, citric acid, sulfur and iron must be added to the diet to overcome functional disturbances and metabolic disease.

The biological compound Zell-Oxygen contains all of the above – all necessary to cancer recovery. To quote another thinker: "By healing the human being in its entirety by means of integrative treatment – and not just the externally visible tumor symptoms – there is a chance to get the disease under control."

Zell-Oxygen also has a role to play in chronic fatigue syndrome (CFS). The blood of CFS patients reveals the following characteristics in microscopic analysis:

1. Abnormally shaped red cells partially infected with fungi.
2. Bacterial growth in blood plasma.

Following administration of Zell-Oxygen, red cells begin to demonstrate normal morphology and there is decreased bacterial growth.

Since Zell-Oxygen increases oxygen levels and cellular respiration, there is an increase in ATP production. It is interesting to observe how cancer patients increase both their psychological and energy levels with this product.

Among other actions, Zell-Oxygen detoxifies the liver, blood and intestines by restoring the membrane stimulation of microflora and destroying fungi, which in time promotes bowel movement.

Our experience with Zell-Oxygen during the past 25 years has clearly shown that by administering it before surgery and radiation there is a decreased chance of metastasis, as in breast cancer.

Since, as stated, Zell-oxygen acts as dietary supplementation to treat nutritional deficiency, we have seen that within one to three months, depending on the case, administration of this product helps stabilize blood components. The widespread positive results from Zell-Oxygen prove the utter necessity of sound nutritional supplementation in cancer cases.

Germanium

The second most important anti-cancer compound I have been using, since 1973, is organic germanium (bis-carboethyl germanium sesquioxide), also called GE-132 or Geoxy 132.

Germanium has demonstrated significant efficacy against tumor growth, metastasis and advanced cancer. Considerable research has shown that germanium, as GE 132, is a regulator of immunity and stimulates interferon.12 It stimulates NK cells, known to be a key component of the body's natural defense against metastasis.

Most importantly, germanium is an energy stimulator and oxygen catalyst. Because of its electronic structure, the metal not only functions as an "electron sink" during energy regeneration but also acts directly on tumor membrane cells.

In addition, germanium is an antioxidant and antiviral and, overall, a life enhancer.

We have used germanium on all kinds of tumors and on several thousand cases with doses up to 500 mg daily without side effects. Remarkable results are obtained particularly when it is accompanied by Zell-Oxygen.

We have even seen 100% elimination of breast tumors.

Our records include numerous 15-year survivors with this protocol.

Daily Protocol and Nutritional Supplementation

Zell-Oxygen preparation (liquid)	15-30 ml in red beet juice
Organic germanium (GE132)	300-500 mg
Bamboo leaf extract	25 drops in water X 3
Dioxychlor (oxidative agent)	15 drops in water X 3 or 4
Squalene	19-20 capsules
DMSO (dimethyl sulfoxide)	1 tbsp. in 1 cup tomato juice X 3

Other products we use include:

Chitin (polysaccharide)

SGES (an energy stone which allegedly produces a "growth ray" radiation level vital for all living things. Since we began using SGES we have seen remarkable results in breast and larynx cancer, particularly when the primary tumor has not been removed.)

Condurango (bark extract from an African tree, used as drops in stomach cancer.)

Pau d'arco (500 mg; herbal tea)

Additional injectable therapy (AIT) for breast, colon, lung cancer:

Combination of GE132 (2-3 cc), glutathione (1 cc), taurine (1 cc)

(This additional therapy works well in reducing aggressive tumors prior to surgery and may be used in other conditions, including liver involvement. We often include DMSO when the tumor is unusually resistant. We have seen even highly resistant tumors decrease by as much as 2 cm in one week.)

Clinical Cases

Pancreatic (stage 3) in a 71-year-old male. He first saw me in June 1989 following surgery the month prior. He was weak and had lost 55 kg of weight. Since doctors found his case hopeless, his family refused even palliative chemotherapy. He began the protocol, including 300 mg daily of germanium. In a month's time he had regained six pounds and felt much stronger. He continued treatment with nutritional support, including raw vegetable juices, until April 1990, consistently showing remarkable improvement. He continues to visit me three times a year and has returned to a normal life.

Colon (stage 2) in a 32-year-old male. Suffering as well from liver metastasis and with a very weakened condition and without appetite, he first saw me in 1978 following colon surgery. He began the protocol including 400 mg of germanium. A month later he had gained 8 pounds and his bowels regained normal function. He continued the treatment for six months and gained another 8 pounds. At that point scans showed his liver to be free of metastasis.

Lung (stage 3) in a 54-year-old male. He was extremely weak following radiation therapy and had lost weight. He decided against continued orthodox treatment and began our protocol, including 400 mg germanium per day and 30 ml of Zell-Oxygen three times per day. The primary tumor disappeared after three months.

Breast (stage 3) in a 31-year-old female. She had had a mastectomy of her left breast in 1988 followed by 50 cobalt treatments. Some three months later she felt pain in her spine, whereupon her medical doctor diagnosed rheumatism. Since pain persisted she underwent further testing in a hospital, where a bone metastasis was discovered. She began our protocol including 300 mg of germanium daily and Zell-Oxygen. At five months she was free of metastasis and continued to take germanium 200 mg per day and Zell-Oxygen for another year. She has a normal life and is cancer-free today.

Brain (stage 3) in an 11-year-old boy. Surgery was performed in 1988 following diagnosis, with partial ablation noted. Followup radiation was unable to destroy the remaining tumor tissue. Following two more surgeries the boy's condition was judged desperate. His parents referred him to me January 19, 1989, after learning from medical doctors that he probably did not have ➤

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another year to live. His case was considered irreversible and I explained to his parents I might not be able to save him. They persisted, so I decided to experiment a couple of months with germanium (250 mg/day) and capsules of a complex of thymus extract, enzymes and vitamins. After a month there was overall improvement, he had recovered his appetite and had gained weight. I increased the germanium to 400 mg daily for two weeks and then 300 mg daily together with my herbal combination formula Apizellin. Throughout 1989 he followed this protocol, including nutritional support and a raw vegetable diet. MRI scans in 1990 found no trace of tumor. He continued treatments and visits to my office. Today he is 20 years old and studying medicine at Lisbon University.

Ovarian (stage 3) in a 42-year-old female. She had been on chemotherapy and had suffered serious side effects and severe deterioration. We treated her from 1989 to 1992 with a protocol including germanium (300 mg daily), Zell-Oxygen, Squalene, and the Xian-Tian Chinese herbal combination. She discontinued chemotherapy. Despite good and bad periods, by 1993 she was tumor-free and by her 1997 checkup she remained in stable condition.

Stomach (stage 3) in a 56-year-old female. She underwent a partial gastrectomy on August 23, 1994, followed by chemotherapy. She had a prior history of liver and lung cysts with cancer diagnosed six months later. Suffering severe side effects from chemotherapy. after 36 treatments she discontinued the latter and opted for alternative therapy. She followed a strict diet together with our protocol. From 1994 to 1996, seeing some relief from her general physical condition, stomach pain and poor appetite. With care, huge quantities of fresh vegetables and natural foods, she overcome her condition. By early 1997 scans detected no sign of tumor activity. By late 1997 she remained stable and tumor-free and continues to take condurango.

Breast (stage 3) in a 56-year-old female. This was a situation in which the primary tumor could not be removed. She had earlier refused chemotherapy as a treatment for possible tumor reduction prior to surgery. During her first consultation a peripheral blood test revealed a huge, highly inflammatory tumor. We began a protocol including GE132, Zell-Oxygen, DMSO, Squalene and bamboo extract. After a month the inflammation had lessened and there was less pain. She followed a strict diet including fresh vegetable juices. In 1995 we began energy-stone therapy (SGES) together with DMSO, Squalene and Zell-Oxygen. Both the tumor and inflammation continue to diminish. (In July 1997 her sister, who also developed breast carcinoma, but followed only orthodox medical protocols, died. This had a negative psychological effect on my patient and she developed severe anemia, which we were able to bring under control. Hospital evaluations continue to show no trace of metastasis to her liver, lungs or bones.)

Brain (stage 2) in a 19-year-old male. He had undergone two unsuccessful surgeries followed by radiation. He developed hemiplegia, walked with great difficulty and had lost the use of his right hand. We started him on a protocol including 300 mg daily of GE 132. Although he had improved after a month, due to earlier radiation damage we decided to include injectable germanium (3 cc three times per week) along with the 200 mg oral. In two months he had greatly improved his walking capacity and could again use his right hand. There was no further need for corticosteroids. We decided to experiment with SGES and Zell-Oxygen, but after two months his orthodox medical doctors decided to initiate chemotherapy, with which I disagreed. Three months later he felt so poorly he decided to discontinue chemotherapy; his parents agreed. We continued treatments with Zell-Oxygen and SGES. He began showing significant improvement in 1997 and by the end of the year he was stable. He began swimming to recover his mobility. He continues to take germanium and Zell-Oxygen.

Conclusions

These are only a few samples from thousands of cases treated over the course of 25 years. But from them we may draw some interesting conclusions:

1. In 80% of cases, cancer patients improve their physical condition between 15 and 60 days.
2. Significant survival rates are achievable even in late-stage cancer. In 30% of these there may actually be disease reversal, as in breast or prostate cancer with bone or liver metastases. Some of the late-stage breast and larynx cancer cases first seen by us in 1982, and some never having had surgery, died only recently (1994-1996), demonstrating that survival time extension with good quality of life is always possible.
3. In breast cancer, these protocols reduce by 80% to 100% metastases subsequent to surgery in 35% of cases; they reduce tumors in 30% of cases without metastases; and another third who develop metastases consequent to chemotherapy will recover completely.
4. We can inhibit tumor growth and metastases by increasing each individual's total host defense system or resistance – meaning the nervous, genetic and immune systems and cellular respiration. There is widespread evidence of the prevention of metastasis, and in many cases we have found chemotherapy and radiation to be of no benefit. In fact, they may enhance both tumor growth and metastasis.
5. We can monitor the results of our protocols step by step though peripheral blood tests (detecting morphological changes in red cells, observing immune cell activity, etc.), serum protein profiles and other useful evaluations.

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