

Integrative Cancer Therapy Concept at St. George Hospital, Germany

As if confronting a potentially fatal disease were not depressing enough, many cancer patients also have to face of debilitating side effects induced by chemotherapy and radiation treatment. These range from fatigue and hair loss to life-threatening pneumonia, emboli or a crippling wastage of lean muscle mass. Sometimes conventional treatment and its side effects are more disabling than the disease itself.

Today, however, more cancer care specialists are recognizing the value of integrative programs that incorporate specialized diets, health-promoting herbs and nutrients, and mild cancer destructing methods like hyperthermia, Galvano therapy, and photodynamic therapy and mind-body therapies to increase the efficacy of conventional cancer treatment while limiting their harmful side effects.

At the forefront of this emerging model of integrative cancer care is St. George Hospital in Bad Aibling, Germany. Friedrich Douwes, MD, has long maintained that detoxification, nutrients and phyto-chemicals and cancer destruction by hyperthermia provide crucial support for cancer patients. At St. George Hospital a specialized Cancer Hospital, patients benefit from customized treatment regimens designed to boost immunity, mitigate side effects, help prevent the loss of muscle mass or cachexia, maximize the efficacy of chemotherapy, and stop the spread of cancer by hyperthermia, Galvano therapy and photodynamic therapy. This integrative cancer therapy concept (ICTC) provides patients with a "survivor's edge" by enhancing quality of life, reducing toxicity and improving patient prospects. This approach charts an exciting option for comprehensive cancer treatment.

Integrative Cancer Therapy Concept (ICTC) of St. George Hospital Germany

Located in Bad Aibling half way between Munich and Salzburg and 45 minutes from Munich Airport St George Hospital was founded in 1987 by Friedrich Douwes MD. This research-based treatment center combines the best of conventional cancer treatment modalities with complementary non-drug therapies such as personalized hyperthermia, Galvano therapy, PDT, nutritional supplementation, detoxification, therapeutic diet, massage, customized exercise, Reiki, yoga, meditation, and mind- body stress care. The hospital seeks to provide comprehensive, integrative cancer therapies through individualized treatment regimens aimed at restoring the biological integrity of the patient and forming the foundation of a long-lasting recovery with god life quality.

Dr. Douwes' approach to cancer care begins with a detailed patient assessment, including biochemical, molecular and gene-based profiles and clinical evaluations of physical status, stage of cancer disease, additional relevant diseases, nutrition, quality of life, and well-being. These data are used to create an individualized treatment plan (TP) that emphasizes patient involvement and includes a customized drug regimen with non-toxic anticancer drugs, a nutritional regimen as well as a therapeutic physical and psychological program. Each patient's biology is continually changing, treatment options are constantly reviewed and revised based on the most current diagnostic and medical data. This means that every component of treatment is individualized to match a patient's unique needs.

St. George provides detailed information for each patient, including a clear understanding of their comprehensive clinical treatment plan. It's not enough to simply prescribe - patients themselves need to be trained and equipped to carry out a therapeutic regimen. Patients are trained to be active participants in their care - therefore it is very important that they have a deep understanding of the ICTC.

According to Friedrich Douwes, MD they never would start chemotherapy with a patient who is not fit enough to withstand and benefit from the treatment. He finds it unfair to the patient because conventional cancer treatment itself has brought him into catabolic situation with a high level of toxins in his system, paralyzed the immune system, induced physical weakness and depression, fear etc. So cancer patients must be detoxified, physically, psychologically, and nutritionally strengthened to be able to take it on. The stronger the carrier of a cancer, the easier it is for him to carry the disease. The weaker the carrier is, the easier it is for a cancer to grow. Therefore it is essential to restore the healthy part of the patient immediately.

This ICTC of St. George Hospital is specifically tailored to each patient and is monitored throughout treatment, is regularly modified according to the patient's changing condition, and continues until full recovery. Patients on conventional chemotherapy often suffer from post-treatment symptoms such as fatigue, "chemo brain" (changes in memory and attention following chemotherapy), physical weakness, and depression. The ICTC of St. George Hospital enables patients to better tolerate chemotherapy, with higher response rates and less side effects and better life quality. It is a fact that conventional treatments lead to a burden of toxic metabolites entering the blood. These complexes trigger inflammatory cascades resulting in increased mutation and thus more aggressive cancer cells. This can establish a greater potential for progression and recurrence. Detoxification strategies are a critical aspect of eliminating these metabolites and other aggressive substances like free radicals, poisons etc. from the patient's system.

Hyperthermia and Insulin Potentiation (IPT) are maximizing the Efficacy of Chemotherapy

When chemotherapy is required, doctors at St. George Hospital use a unique method of drug delivery called "low dose insulin potentiated chemotherapy". This application of chemotherapy concentrates chemotherapy in the cancer tissue, is much higher and more selective, and a good preparation for the following chemotherapy. That means with the combination of different modalities at the same time we have the highest cancer destruction response possible.

St. George Hospital is the first cancer clinic which uses this enormous effective treatment concept. Unlike conventionally infused chemotherapy, this insulin potentiated therapy provides the drug, when the cells have opened ports to let the drug in and have turned off pumps to bring them out. The synchronic imitated hyperthermia increases initially the blood flow to the cancer tissue and shuts the blood flow off at a temperature above 41.0°. This combination helps to concentrate the cytostatics inside the cancer tissue compared to conventional chemotherapy; and this with much less amount. Once the cytostatics are inside the cancer cell the temperature is increased to 41-42°C over a period of one to two hours. This coordination of insulin potentiation and hyperthermia creates a better "killing rate" for the cancer, with less toxicity to healthy cells.

Patients tolerate this approach much better than the conventional one and have higher response and fewer side effects. Patients who undergo this advanced chemotherapy treatment in the context of a full integrative cancer therapy concept (ICTC) have not only less side effects, they tolerate the therapy with only mild or negligible side effects. This is highly significant, since as many as one third of all cancer patients abandon chemotherapy before its completion due to their inability to tolerate its physical side effects and the associated psychological stress.

In fact our own published research confirms that ICTC is associated with improved outcomes, including reduced toxicity and improved survival. A review of patients with metastatic drug resistant ovarian cancer showed an extended survival time with ICTC of over 70%.

Integrative Cancer Therapy Concept (ICTC)

Conventional cancer therapy like chemotherapy and radiation cause many disabling side effects, ranging from fatigue and nausea to muscle wasting.

The ICTC uses lifestyle modification, nutrition and supplementation, therapeutic movement, and mind-body interventions to maximize the efficacy and minimize the side effects of the specific treatment. As growing evidence supports the validity of this integrative approach, more oncologists develop an interest and understanding of this treatment strategy, because of the visible success.

St. George Hospital is one of Germany's leaders in comprehensive cancer treatment, combining conventional oncology modalities with complementary strategies to help their patients successfully conquer cancer and achieve lifelong wellness.

Combining insulin potentiated chemotherapy with local or systemic hyperthermia is a novel approach that coordinates drug treatment with the different biology of cancer cells to normal cells. We administer chemotherapy at certain times, especially when the blood flow to the tumor tissue is enhanced by heat application and the cell ports are open for the chemicals caused by insulin. This combination produces greater therapeutic effects with lower toxicity.

Dr. Douwes has developed this ICTC including a health program to address the broad needs of cancer patients. The first component includes lifestyle, fitness, mind-spirit, and a solid nutritional support. The hyperthermia with IPT targets the cancer tissue but supports the biochemical micro environment the cancer cells reside in.

This is very important, since from this tissue the immune response is organized. With ICTC the cancer cells die within the organ; that means the tumor antigens are presented to the invading immune cell like macrophages or dendritic cells and are recognized, so that active specific immunity may be induced. To support this permanent detoxification and nutritional support are necessary. This form of ICTC has enabled patients, who were unable to tolerate conventional chemotherapy, to use the same chemotherapy drug they previously stopped and to complete treatment successfully. ICTC has also benefited patients whose cancers were previously inoperable, by reducing the size of their tumors to a size that makes surgery possible.

Establishing Optimal Health through Nutrition

Dr. Douwes believes that it is as critical to establish optimal health through integrative and nutritional interventions, especially in treating advanced cancer, as it is to eradicate the disease itself.

He focuses on developing a path to recovery through a comprehensive and integrative program of treatment and care. He views illness not as fate or punishment, but more as a demand to the patient to turn around and change lifestyle. Disease is to his mind uproar of the body that it cannot proceed the way it has so far and that it is a demand of the body to change completely, it is a wake-up call for reclaiming health and transforming life.

For over two decades, Dr. Douwes and his medical team have been investigating the effect of nutritional interventions on various cancers among different patient populations. These findings have been incorporated in St. George Hospital's nutritional program, which emphasizes nutrients such as fish oil rich in EPA (eicosapentaenoic acid), Quercetin, Indol-3-Carbinol respectively DIM (dindolylmethane, an

indole found in cruciferous vegetables such as broccoli and cauliflower), EGCG (epigallocatechin gal-ate, the principal polyphenol in green tea), selenium, zinc, silymarin (a flavonoid in milk thistle), and mistletoe extracts.

In addressing difficult-to-treat oncology issues, particularly for patients with advanced cancer, Dr. Douwes adopts more aggressive medical strategies for cancer management. Besides improving stamina and vitality, the program of St. George Hospital targets in the first line to destruct the main cancer mass by local hyperthermia. Hyperthermia has an oncolytic effect, inhibits proliferation, and produces heat shock proteins mainly in cancer cells, which make them recognizable for natural killer cells. That means it boosts not only the immune system, it also induces a specific anti-cancer immunity. Hyperthermia has a lot more interesting mechanism to destroy cancer, especially if one uses electro hyperthermia or oncothermia as we use it. This type of hyperthermia is very different from microwave hyperthermia, which has only a limited use. Oncothermia is self-focusing and has much deeper penetration and can therefore also be used for liver, lung and brain metastases. (More information about hyperthermia and how it works see in a specific chapter on this website). During this phase of cancer destruction the patient has a daily detoxification program and a diet rich in antioxidants and whole plant-based supplements that reflect the full spectrum of nutrients found in good and healthy food. Combinations of antioxidants with good food have more potent anti-cancer effects than individual nutrients.

The diet at St. George contains no sugar, is low in saturated fats, and is high in fibers, complex carbohydrates, fruits, cruciferous vegetables, omega-3 fatty acids, and plant-based sources of protein. This nutritional strategy targets the patient's internal terrain, creating an environment inhospitable to further disease. This is intended to help curtail inflammation, reduce free-radical damage, minimize platelet activation (which can lead to dangerous blood clotting), manage blood sugar surges, and reduce serum levels of insulin-like growth factor 1, or IGF-1 which stimulates cell multiplication and inhibits cell death.

Integrated into the ICTC is a nutrition plan with micronutrients, macronutrients, and phyto-chemicals that better and quicker improve general resistance. For many cancer patients, these may include vitamin B12, selenium, zinc, folic acid, vitamin C, vitamin D3, gamma tocopherol, tocotrienols, vitamin K2, calcium, magnesium, chromium, lycopene, and boswelia. Special infusion programs are developed to increase the body's resistance to stress, to overcome fatigue and malaise induced by chemotherapy and radiation, and improve vitality.

Unlike conventional cancer management, the ICTC targets one of the most serious consequences of the disease, known as cancer cachexia. This is a type of malnutrition associated with appetite suppression, muscle wasting, weight loss, and weakness, 20-30% of cancer patients actually die from complications of malnutrition, rather than from cancer itself. Malnutrition often is induced by conventional treatment and not corrected. And as long as a patient is in a catabolic situation he has no chance to win the battle.

Diets that are high in EPA and proteins (Budwig diet) help cancer patients suffering from cachexia to gain weight and improve their nutritional status. The oil-protein diet also opposes cancer cachexia through its anti-inflammatory effects and its ability to displace arachidonic acid, a pro-inflammatory omega-6 fatty acid, from cell membranes. Reducing intake of foods containing arachidonic acid, such as red meat, egg yolks, poultry, and dairy products, also helps shift the body's biochemistry away from a pro-inflammatory environment. A high intake of L-carnitine, L-glutamine, alpha lipoic acid and coenzyme Q 10 can likewise have a beneficial muscle-sparing effect and can help to prevent cancer cachexia.

The Integrative Cancer Therapy Concept (ICTC) at St. George Hospital

Targeting the disease and its micro environment is a modern goal. Several target substances entered the market lately and have promising clinical effects. One of these targets is the blockage of tumor angiogenesis (the growth of blood vessels that fed tumors). Blocking the formation of vessels is slowing down cancer growth, facilitating apoptosis - the programmed cancer cell death, and preventing tumor metastases respectively cancer spread throughout the body. We could show almost ten years ago, that hyperthermia has also a marked anti-angiogenetic effect. The tumor vessels are not as well built as normal capillaries; they are less organized and cannot constrict and relax as normal capillaries. In the early phase of hyperthermia, when the temperature in tumor tissue is rising, the vessels relax to increase the blood flow to the tumor tissue, but as soon as the temperature goes higher than 40°C the constriction of the blood flow stops, it comes to formation of micro thrombi causing hypoxemia in the cancer tissue, which together with other important mechanisms induce apoptosis and cancer cell death. So hyperthermia is an elegant form of anti-angiogenesis.

Important is also to evaluate some other biomarkers including a unique set of biochemical tests that include inflammation, coagulation, and oxidative stress, immune and hormone profile. These data are important to use the right phyto-chemicals and nutrients. Especially phyto medicines have multiple potential uses - they are pleiotrophs - and produce many effects that enable them to hit more than one target at a time.

- ▶ **Milk Thistle** is mostly known for its protective effects against chemical toxicity, but it can also prevent the loss of glutathione, which is fairly common in cancer patients.
- ▶ **Ginger** has detoxification potential as well as significant anti-inflammatory effects. It inhibits both the cyclooxygenase and lipoxygenase inflammatory pathways, and is very effective in reducing nausea and vomiting.
- ▶ **Lipoic Acid** may counter neuropathy, a risk for patients using the chemotherapy drug platinum or paclitaxel, but also helps to support mitochondria.
- ▶ **Coenzyme Q10** is recommended for patients using the chemotherapy drugs doxorubicin (Adriamycin®, Doxil*) and trastuzumab (Herceptin®), to counteract the risk of cardiomyopathy.
- ▶ **Protein and Amino Acid Support Formulas** have been helpful in reducing muscle loss, and in maintaining immune and biological functioning.

Other supplements as used at St George Hospital to enhance cancer treatment are:

- ▶ **L-Carnitine and Glutamine.** When used in conjunction with chemotherapy, they may reduce some side effects of treatment, including mouth sores, neuropathy, and diarrhea. In addition, glutamine may increase tumor sensitivity to chemotherapy.
- ▶ **Fish Oil and Flaxseed Oil** may play an important role in cancer treatment through its ability to help suppress inflammation. Additionally, omega-3 fatty acids help reduce the resistance that cancer cells often develop to cytostatic agents. Some studies have shown that breast cancer patients who respond favorably to chemotherapy have higher levels of omega-3s than those who do not respond.
- ▶ **Green Tea** is a potent antioxidant and anti-inflammatory agent. Green tea consumption has been associated with a reduced occurrence of early-stage breast cancer and a diminished risk of lymph node metastases. EGCG from green tea has anti-metastatic properties that may block the spread of tumors. Studies suggest that EGCG may work in part by blocking the activity of matrix metalloproteinase enzymes. When over-expressed, these enzymes promote tumor angiogenesis and metastasis. Green tea may also help tumors to build up their own tumor vessels; they have an anti-angiogenetic effect. To drink at least three to five cups a day is therefore a good suggestion.

- ▶ **Mistletoe Extracts** improve life quality, the immune response and prolong the survival time of cancer patient.
- ▶ **Modified Citrus Pectin** fights cancer by inhibiting primary tumor growth and suppressing cancer metastases. Modified citrus pectin is indicated for men with prostate cancer. Rising levels of PSA have been used to measure disease progression. Administering modified citrus pectin to these men increases their PSA doubling time, indicating a slowing down of disease progression.

Conventional cancer treatment often damages the immune system and has a long lasting immune depressive activity and makes these patients vulnerable to infections. Thus, we must boost the body's immune defenses and surveillance.

Natural killer cells in the immune system are crucial to effective immune defense. Hyperthermia releases a bunch of cytokines and heat shock proteins which make cancer cells more immunogenic that means they are better recognized by the natural killer cells. NK cells are essential in killing virus-infected cells and destroying cancer cells. The nutrients selenium, β -glycan and zinc increase circulating levels of natural killer cells and boost their cancer-killing activity.

Improving Quality of Life

St. George Hospital seeks to strengthen a cancer patient's health before, during, and after cancer therapy. Implementing a comprehensive, individualized program that includes dietary and nutritional support, hyperthermia, and non-toxic anti-cancer drugs can help cancer patients minimize the complications of their disease and the side effects associated with conventional cancer treatment. Because patients often feel abandoned following the completion of chemotherapy, the ICTC continues even after a patient returns home. The goal is secondary prevention.

Conclusion

ICTC as it is practiced at St. George Hospital is a comprehensive approach of fighting cancer and its complications. St. George Hospital has 20 years' experience with its integrative cancer therapy concept (ICTC). Important is the combination of conventional cancer therapies with a variety of complementary methods especially hyperthermia, Galvano and PDT.

For more information, please visit www.klinik-st-georg.de (0 49-8061-398 205)

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