

Lectures in Holistic Medicine

10th in a series of 10 : Cancer part 2

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- AHMA www.holisticmedicine.org
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CANCER

- Goals of this 3 part lecture :
 - part 1 : to recognize environmental and lifestyle factors that lead to cancer
 - part 2 : to look at supportive measures when going through conventional treatment
 - part 3 : a look at other treatments than chemo, radiation and surgery (with some case studies)

Chemotherapy and radiation

- The main concern that patients express when they have decided to use chemo or/and radiation as their way of treating cancer, is how to protect their body from the damage of these forms of treatment.
- Here is a question that goes even further :
Can I safely enhance the effect of these treatments while decreasing the side-effects?
Let's see if that is possible.

Chemotherapy long term effect

- A UCLA study has shown that chemotherapy can change the blood flow and metabolism of the brain in ways that can linger for 10 years or more after treatment.
- This could help explain the confusion, sometimes called "chemo brain," reported by chemotherapy patients.

Sources:

[Breast Cancer Research and Treatment September 29, 2006](#)

[Science Blog October 5, 2006](#)

[USA Today October 5, 2006](#)

Chemo sensitivity testing

- Did you know that you can find out which chemotherapy your cancer will be sensitive OR resistant to, before you even start the treatment?
- It is called chemo sensitivity testing (just like the standard sensitivity testing of antibiotics to treat Urinary tract infections, UTI's).
- If it is routinely done for UTI's, why not for cancer? The consequences of an ineffective chemo can be the difference between life and death.

Listing of reputable Labs

- Solid tumors only :

-Anticancer, Inc., San Diego, CA. Robert Hoffman, PhD. Solid Tumors Only. 1-619-654-2555

-Oncotech, Inc., Irvine, CA. John Fruehauf, MD. Solid Tumors and Hematologics. 1-714-474-9262 / FAX 1-714-474-8147

Solid tumors and blood :

-Rational Therapeutics Institute, Long Beach, CA. Robert A. Nagourney, MD Solid Tumors and Hematologics. 562-989-6455

-Weisenthal Cancer Group, Huntington Beach, CA. Larry M. Weisenthal, MD, PhD. Solid Tumors and Hematologics. 1-714-894-0011 / FAX 1-714-893-3659 / e-mail: mail@weisenthal.org

A way of doing chemo with less side-effects ?

- It does exist and it is called IPT (Insulin Potentiation Therapy).

IPT History In Brief

- IPT was discovered in 1926-28 by Donato Perez Garcia, M.D. ([Dr. Perez Garcia 1](#)), and developed by him in Mexico City during the 1930s and 1940s.
- His son [Donato Perez Garcia y Bellón, M.D. 2](#) joined him in his practice in 1956.
- Dr. Perez Garcia 1 died in 1971.
- [Donato Perez Garcia, M.D. 3](#) joined the family clinic in 1983, and moved his own practice to the Tijuana/San Diego area in 1989. Carrying on the long family tradition, he continues to expand the applications of IPT.
- SGA, M.D., a Canadian doctor now practicing in Chicago area, met Dr. Perez Garcia y Bellon 2 in 1975, and has worked continuously since to tell people about IPT and to seek a scientific understanding of how IPT works. He is carrying out pilot studies applying IPT to the treatment of cancer.
- [Jean-Claude Paquette, M.D.](#), a Canadian doctor in Quebec, met Dr. Perez Garcia y Bellon 2 in 1976, and practiced IPT with great success, despite persecution by his peers. He died in 1995. His book on IPTQ has been published both in [French](#) (the original) and in [English](#).

What is the physiological basis for IPT ?

- The only fuel that cancer cells depend on is Glucose. They are also unable to store glucose. They therefore depend for their survival and multiplication on the amount of glucose that is available in the blood.

How is IPT done?

1. A small amount of insulin is injected intravenously.
2. Over 18 to 40 minutes the blood sugar slowly goes down.
3. When the blood sugar reaches about half normal level the chemo-therapy agent is injected together with sugar water, because the cancer cells have been temporarily starved of glucose their metabolic rate drastically has increased at the precise time that the chemo is given, which allows for more selective uptake by cancer cells.

With this technique less chemo can be used with the same effectiveness and less side-effects.

A PET–CT is based on the same theory as IPT

- That is cancer only uses glucose as fuel. In the PET part of the procedure, the patient is injected with radioactive glucose, which is taken up by cancer cells mostly, because they have a much higher metabolism than normal cells (except the brain cells). Then a whole body picture is taken to detect the areas that have the most radioactivity. Those areas are then matched with the CT pictures by a computer to look at the details.

Cancer has a very specific metabolism

- Future applications based on that?

Electronic nose sensors have been shown to have good sensitivity towards volatile organic compounds emitted by skin lesions for example, the method seems to be effective for identification of melanoma lesions.

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Cancer sniffing dogs

- Back in 2004 a UK study showed that dogs were able to positively detect bladder and kidney cancer from urine samples.
- One sample that was thought to be disease-free kept testing positive with the dogs. The researchers went back and reexamined the volunteer. The volunteer had kidney cancer.
- In a new study in San Alselmo, Californian, researchers tested different forms of cancer.
- The dogs correctly detected 99% of the lung cancer samples, and made a mistake with only 1% of the healthy controls. With breast cancer, they correctly detected 88% of the positive samples, and made a mistake on only 2% of the controls.



Tumormarkers

- Tumormarkers are tested via blood and are therefore an uncomplicated and side-effect free way to monitor if a cancer treatment has been successful and if a recurrence is happening.
- They can help avoid radiation exposure from CT and PET-CT scans.
- They are also considerably cheaper than scans.
- It is crucial that all the possible tumormarkers are tested while the cancer is still present, to find out which marker is the most sensitive and if there is one at all.

Tumormarkers in detail

- **Alpha-fetoprotein (AFP):** AFP is most useful in following the response to treatment for *liver cancer (hepatocellular carcinoma)*.
- **Beta-2-microglobulin (B2M):** B2M blood levels are elevated in *multiple myeloma, chronic lymphocytic leukemia (CLL)*, and some *lymphomas*. Levels may also be higher in some non-cancerous conditions, such as kidney disease.
- **Bladder tumor antigen (BTA):** BTA is found in the urine of many patients with *bladder cancer*. It may be present in some non-cancerous conditions too. It is being used along with NMP22 (see below) to test patients for recurrent cancer.
- **CA 15-3:** CA 15-3 is used mainly to monitor patients with *breast cancer*.
- **CA 27.29:** CA 27.29 is another marker used to follow patients with *breast cancer* during or after treatment. This test measures the same marker as the CA 15-3 test, but in a different way.
- **CA 125:** CA 125 is the standard tumor marker used to follow women during or after treatment for *epithelial ovarian cancer* (the most common type of ovarian cancer)..
- Levels are also elevated in about half of women whose disease is still confined to the ovary. Because of this, CA 125 is being studied as a screening test.

More markers

- **CA 72-4:** CA 72-4 is a newer test being studied in *ovarian* and *pancreatic cancer* and cancers starting in the digestive tract, especially *stomach cancer*.
- **CA 19-9:** Although the CA 19-9 test was first developed to detect colorectal cancer, it is more sensitive to *pancreatic cancer*.
- CA 19-9 can also be elevated in other forms of digestive tract cancer, especially cancers of the stomach and bile ducts.
- **Calcitonin:** Calcitonin is a hormone produced by certain cells (called parafollicular C cells) in the thyroid gland. In cancer of the parafollicular C cells, called *medullary thyroid carcinoma (MTC)*, blood levels of this hormone are elevated.
- This is one of the rare tumor markers that can be used to help detect early cancer. Because MTC is often inherited, blood calcitonin can be measured to detect the cancer in its very earliest stages in family members who are at risk.
- **Carcinoembryonic antigen (CEA):** CEA is the preferred tumor marker for following patients with *colorectal cancer* during or after treatment. Many doctors use this marker to follow other cancers, such as *lung cancer* and *breast cancer*.
- **Chromogranin A (CgA):** Chromogranin A is made by *neuroendocrine tumors*, which include *carcinoid tumors*, *neuroblastoma*, and *small cell lung cancer*.

More markers

- **Estrogen receptors/progesterone receptors:** Breast tumor samples--not blood samples--from women and men with *breast cancer* are commonly tested for these markers.
- **HER2 (also known as HER2/neu, erbB-2, or EGFR2):** HER2 is a marker that is elevated in some *breast cancer* cells. The HER2 level is usually found by testing a sample of the cancer tissue itself, not the blood. Those whose cancers are positive for this marker don't respond as well to chemotherapy. These cancers are more likely to respond to newer treatments such as trastuzumab (Herceptin[®]) and lapatinib (Tykerb[®]), which work against the HER2 receptor on breast cancer cells.
- **Human chorionic gonadotropin (HCG):** HCG (also known as beta-HCG) blood levels are elevated in patients with some types of *testicular* and *ovarian cancers* (germ cell tumors) and in *gestational trophoblastic disease*, mainly *choriocarcinoma*. They are also higher in some men with certain cancers in the middle of their chest (mediastinum) that start in the same cells as testicular cancer (*mediastinal germ cell neoplasms*).

More markers

- **Immunoglobulins:** Immunoglobulins are not really tumor markers but antibodies, which are blood proteins normally made by immune system cells to help fight germs. Bone marrow cancers such as *multiple myeloma* and *Waldenstrom macroglobulinemia* often result in too many immunoglobulins in the blood (and in the urine). A classic sign in patients with myeloma or macroglobulinemia is a very high level of one specific (monoclonal) immunoglobulin. With myeloma or macroglobulinemia, the globulins (also called monoclonal proteins or M proteins) stick together and form a monoclonal "spike" (often called the M spike) on the readout of the test..
- **Lipid associated sialic acid in plasma (LASA-P):** LASA-P has been studied as a marker for *ovarian cancer* as well as some other cancers. Generally it has not proven valuable.
- **Neuron-specific enolase (NSE):** NSE, as well as chromogranin A, are markers for *neuroendocrine tumors* such as *small cell lung cancer*, *neuroblastoma*, and *carcinoid tumors*. NSE is most useful in the follow-up of patients with small cell lung cancer or neuroblastoma (while chromogranin A seems to be a better marker for carcinoid tumors).
- **NMP22:** NMP22 is a protein found in the nucleus (control center) of cells. Levels of NMP22 are often elevated (more than 10 U/mL or units/milliliter) in the urine of people with *bladder cancer*.

More markers

- **Prostate-specific antigen (PSA):** PSA is a tumor marker for *prostate cancer*. It is used for screening. Men with benign prostatic hyperplasia (BPH) often have high levels too. A helpful test when a PSA value is between 4 ng/mL and 10 ng/mL is to measure the *free PSA* (or *percent-free PSA*). When the free PSA makes up more than 25% of the total PSA, prostate cancer is unlikely. If the free PSA is below 10%, the chance of prostate cancer is much higher.
- **S-100:** S-100 is a protein found in most *melanoma* cells. Tissue samples of suspected melanomas are often tested for this marker to help in diagnosis. The test is sometimes used to look for melanoma spread before, during, or after treatment.
- **TA-90:** TA-90 is a protein found on the outer surface of *melanoma* cells. Like S-100, TA-90 can be used to look for the spread of melanoma.
- **Thyroglobulin:** Thyroglobulin is a protein made by the thyroid gland. Thyroglobulin levels are elevated in *thyroid cancer*. Some people's immune systems make antibodies against thyroglobulin, which can affect test results. Because of this, levels of anti-thyroglobulin antibodies are often measured at the same time.
- **Tissue polypeptide antigen (TPA):** The TPA blood test is sometimes used along with other tumor markers to help follow patients being treated for *lung*, *bladder*, and many other cancers.

Antioxidants and chemotherapy/radiation

- There is a concern that antioxidants might reduce oxidizing free radicals created by radiation and chemotherapy, and therefore decrease the effectiveness of these therapies.
- Considerable data shows increased effectiveness and at the same time decreased side-effects of radiation and chemotherapy, when antioxidants are used at the same time.

Chemotherapy

- 1) Alkylating agents : cyclophosphamide, ifosfamide, busulphan, melphan
 - Increased therapeutic effect : Vit A, beta-carotene, Vit C, Vit E, CoQ10, Glutathione, Quercetin
 - Decreased toxicity : Selenium, CoQ10, Melatonin, NAC, Glutathione

Chemotherapy

- 2) Antibiotic-type agents : doxorubicin, bleomycin, epirubicin, daunorubicin
 - Increased therapeutic effect : beta carotene, Vit C, Vit E, Selenium, green tea, Quercetin
 - Decreased toxicity : Vit A, Vit E, Selenium, CoQ10, Melatonin, NAC ?
 - Possibly not a good combination : doxorubicin and glutathione

Chemotherapy

- 3) Platinum compounds : cisplatin
 - Increased therapeutic effect : Vit A, Vit C, Vit E, beta carotene, Selenium(?), Melatonin (survival), Glutathione(?), Quercetin
 - Decreased toxicity : Selenium, Melatonin, NAC, Glutathione

Chemotherapy

- 49pp) Antimetabolites : 5-fluorouracil, methotrexate
 - Increased therapeutic effect : Vit C, Vit E, Selenium, Melatonin
 - Decreased toxicity : Vit A, CoQ10, Melatonin, Glutathione
 - Possibly not a good combo : 5FU and beta carotene

Chemotherapy

- 5) Plant alkaloids : etoposide, vincristine, vinblastine, paclitaxel
 - Increased therapeutic effect : Vit A, beta carotene, Vit C, Vit E
 - Decreased toxicity : Melatonin

Hormonal therapy

- Tamoxifen

- Increased therapeutic effect : Vit A, Vit C, Vit E, Melatonin,

Radiation

- - Increased therapeutic effect : Vit A, beta carotene, Vit C, Vit E, Melatonin
- - Decreased toxicity : Vit A, beta carotene, Vit C, Selenium, Melatonin, Glutathione

Guided imagery

- Jeanne Achterberg PhD stated that 60% of cancer patients are able to look back 16 months and locate a significant life stressor that may have triggered their cancer.
She also stated that within 5 years of retirement, most men die as life loses focus, direction and meaning. Women get ill when the kids move out of the house for good. I cannot understand that one as my mother was ecstatic!
So if one can pinpoint a significant stressor in their life which leads to a worsening of their health, then there must be a way in order to reverse that. If we can cause disease manifesting in our bodies, then why cannot we manifest health????

Detoxification

- The body eliminates toxins with the help of several organs :
 - The **liver** is the major detoxifier in the body by far. (Will discuss in detail).
 - The **kidneys** probably rank second in this hierarchy. Therefore drink enough fluids.
 - The **skin** and the **lungs** also help out in this function. Sweating (far infrared sauna) and aerobic exercise are the main ways to support those organs in the detox process.

Liver detoxification

- There are many ways to assist the liver in detoxification :
 - Liver flush
 - Coffee enema
 - Master cleanse
 - Mostly vegetarian diet

Thank you !

Questions ?