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Why We Recommend and Use "The R.G.C.C. Cancer Test" 02.13.14 Revised

We have been using this test for about 9.5 years. We were the first clinic in the US and Canada to start looking at a better more **Personalized Patient-Centered Cancer Care** to help those with cancer. To date we have personally ordered over >700 tests. This has been in place in Europe for over 10 years. <u>This is **not**</u> "The Greece Cancer Cure" from Dr. Hariton-Tzannis Alivizatos of Athens, Greece. <u>We do not profess to cure cancer</u>.

Over the last 10 years this test has emerged to be one of the most accurate and complete test of its kind we have seen to date. The test is performed in Greece by Ioannis Papasotiriou, M.D., PhD, medical director of RGCC-Ltd. It was good in the beginning and has consistently improved over the years to a great test, in my opinion and the opinion of many other physicians throughout the world. The use of a simple blood sample with RGCC-Ltd works with **ALL** cancers (solid tumors, blood cancers, sarcomas, etc...) except brain and central nervous system primary tumors (glioblastomas, astrocytoma, meningioma etc..), RGCC Labs can still work with these cancers when provided with a small, live tissue sample from the tumor.

The field of oncology has become highly competitive over the past 2-3 years, due to a beginning paradigm shift, based on long standing lack of good predictable results. Mass General, Sloan Kettering, University of Texas M.D. Anderson Cancer Center in Houston, and Dana-Faber Cancer Institute of Boston have all started using and developing a similar test in the last 2 years. They estimated it may start being used in about 5-9 years. At this point, none of these centers or any others we have looked at can do (or will do) what RGCC-labs of Greece does from only ~2 tablespoon of your blood. Now that is phenomenal use of modern day technology.

We know that cancer has been metastasizing [spreading and with a vengeance] in most all cancer patients for many, many years with little or no change. Up until recently no one knew for sure how or why this happened, just that it happened with great frequency. Now, many scientist throughout the world and saying, it is due to the circulating tumor and cancer stem cells (CTC's/CSC's). This is rapidly becoming the focus of much cancer research, how to stop these peripheral CTC's and CSC's from causing <u>metastatic tumors</u> which is responsible for at least 90% of all cancer related deaths. Furthermore, the CTC's and CSC's are suspected by many scientist to be the cause of almost if not all the metastasizes that do occur. With this new information what should be one of the main targets by oncologists? **Not** just the tumor (as it is now) more importantly the circulating CTC's and CSC's from each individual, these are the real trouble makers.

The primary cancer tumor is bad enough, but the CTC's and CSC's are the real problem. These cells are responsible for the metastasis and return of this chronic, systemic disease. In the last 42 years, well into the trillions of dollars have been spent on cancer research and treatment since the war on cancer was declared in 1971. The overall results of these efforts, time and money adds up to only \sim 2.1-7.5% increase in the 5 yr. survival rate (**see page 5**, **#1** for source and details). All this time, money spent, patient suffering and death, <u>in my opinion</u>, is not something one would be proud of and definitely not a good return on your many billion or trillion dollars of investment.

The personalized cancer test from RGCC-Labs in Greece is known as an **ex vivo** test. **Ex vivo** (Latin: "out of the living") means that which takes place outside an organism. In science, ex vivo refers to experimentations or measurements done in or on tissues (or in this case CTC's and CSC's) in an artificial environment outside the organism with the <u>minimum</u> <u>alteration of natural conditions</u>. Ex vivo conditions allow experimentation under more controlled conditions than is possible for in-vivo experiments (in the intact organism), at the expense of altering the "natural" environment. <u>RGCC has developed a way to not change any of the genetics (genotype and phenotype) and equally important to not change the epigenetics of the CTC's and CSC's this is very important.</u>

In vivo (Latin: "within the living") is experimentation using a whole, living organism as opposed to a partial or dead organism, or an in vitro ("within the glass", i.e., in a test tube or petri dish) controlled environment. Animal testing and clinical trials are two forms of in vivo research. In vivo testing is often employed over in vitro because it is better suited for observing the overall effects of an experiment on a living subject. In microbiology <u>in vivo</u> is often used to refer to experimentation done in live isolated cells rather than in a whole organism, for example, cultured cells derived from biopsies. In this situation, the more specific term is <u>ex vivo</u>. Once cells are disrupted and individual parts are tested or analyzed, this is known as <u>in vitro</u>.

In microbiology <u>in vivo</u> is often used to refer to experimentation done in live isolated cells rather than in a whole organism, for example, <u>cultured cells derived from biopsies or from the peripheral blood test</u> (the RGCC Test).

In vitro (Latin: "within glass") refers to studies in experimental biology that are conducted using components of an organism that have been isolated from their usual biological context in order to permit a more detailed or more convenient analysis than can be done with whole organisms. Colloquially, these experiments are commonly referred to as "test tube experiments".

Why use the blood since only a small number of CTC's and CSC's are found in the blood?

It is well known and widely accepted by the scientific community that the primary tumor consists of stroma (fibroblast, monocytes, lymphocytes, vessels, etc.) and the malignant cells which are heterogeneous (not all cells are the same) since they are composed from different subgroups and subclones with different features and abilities. These are known as cancer tumor cells (CTC's). A portion of these CTC's are actually cancer stem cells (CSC's). Only very few of this population will develop metastatic ability which will allow them to invade the surrounding tissue, pass into the circulation and perform the epithelial to mesenchymal transition (EMT) creating the circulating CSC's. These cells now have all the information and ability to form micro-colonization and micro-metastases and often will later develop into potent micro-metastases, this is why cancer returns. This is also why we see these CSC's still in the blood long (I know for certain a minimum of 34 years) after the patients primary tumor is not detectable by PET/CT, MRI, CT, standard blood markers (CA 125, CA 19-9 etc.) or any other standard traditional measurements. As we have said many times before, the CSC's are the real trouble makers. Remember these CSC's are immortal (they have no Hayflick limit for cell division) and can divide as long as they live. They are circulating in your blood stream 24/7/365 days a year just waiting for the right opportunity (when your internal micro-environment {immune system} is not "up to par") to start another tumor or they may go dormant for up to 30+ years only to raise their ugly heads again. For this reason RGCC has selected blood samples as the most appropriate form for analysis since it includes the circulating cancer cells with the most relevant information for calculating the risk for both a potent metastasis and/or a reoccurrence from a few months to many years later . This is why we feel this is the best way to test, since metastasis is really what will kill most every cancer patient even 30+ years later. That is also why we use this test for regular follow-up testing to see if CTC's/CSC's remain, how many and any sudden changes in the number of CTC's/CSC's that may occur in the circulation over the months and years. This gives us a good idea, with other standard medical measurements, to find reoccurrences (if any) much earlier. We do not limit our recommeations to any one test. The standard medical test and biopsies are still recommended and used as well. This gives us the best and most comprehensive way to evaluate the patient individually.

How do we analyze the harvested cells and use them to show risk of cancer relapse in clinical reality?

This is done by appropriate expansion of the CTC's. The CTC's will expand as the cancer stem cell like cell and then enter into exponential phase of growth which will generate a respectful number of CSC's (100's of billion to even trillions) in a very short period of time (~36 hours). At the same time we manage to keep intact both the genotype and phenotype of the cells and avoid any changes from your original CSC's. Therefore, after the final expansion we have maintained the identical genotype, phenotype and epigenetic expression. The key to this exponential (rapid) growth phase is the cell culture. Dr. Papasotiriou has an international (world) patent on this cell culture which does not change the genetics or epigenetics of the original CTC's/CSC's as shown by his patent. This is what allows RGCC-Ltd to verify the actual agents as well as the genetics. Most other labs only show results on the genetics of the tumor and what they should be sensitive to. A respectable percentage of the time they do not actually respond. Plus, RGCC results give us an actual percentage of both sensitivity and resistance to both <u>natural substances</u> and <u>chemo-drugs</u>. This is what we call **Personalized Patient-Centered Care** with no equivalent that we know of at this time.

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How does RGCC assure the purity of the CTC's harvested from your blood?

RGCC-Ltd uses powerful sorters and flow cytometers as well as negative selection based interrogation. They are able to actually isolate the relevant CTC's/CSC's and not enrich them (not change your cancer cells in any way). Hence, they manage to have a pure sample of CTC's/CSC's and simultaneously harvest from just a single blood sample.

How does RGCC analyze the gene expression profile for the sensitivity/resistivity of the CSC's?

The expanded cells will be analyzed for one expression profile in a hall genome micro-array analysis. Hence, we now have all the information concerning epigenetic screening of the CTC's/CSC's. <u>This profile will indicate to us which therapy</u> (chemo therapeutics as well as nutritional therapeutics) <u>your</u> CTC's/CSC's <u>are sensitive or resistant to and is</u> **Personalized for each patient**. We have tested ~700 patients with a wide variety of cancers and have never had the same protocol on any 2, even if the cancers were the same. The difference between protocols are 30-60% different even in siblings with the same cancer.

How does RGCC verify that these chemosensitivity/chemoresistance results are really valid?

The information obtained from the gene expression analysis will be validated in a micro culture where the effect of each substance (chemo drugs) will be tested for 6 (six) days and plotting a graph of the total number of your cells that were killed, while maintaining proper osmolality of the cell culture. The natural substances are tested by leaving the herb, vitamin, etc... in contact with your cancer cells for 48 hours. The reason, it takes this long for the natural compound to activate the caspase 3/9 and cytochrome-c pathway to induce apoptosis (cell death) of **your** cancer cells. These assays overcome the problem of linearity between gene expression and protein expression levels. The RGCC lab does not rely on the genetic assay only, as most other labs do, they actually test each individual chemo and natural substances to see if it really works and how well it works or not. No one else in the world has this capability, or accuracy, that I know of. Remember why, <u>RGCC lab has the international, world patent, on the cell culture</u> which allows the growth (expansion) of the 5-200 CTC's/CSC's found in your blood sample to100's of billions up to trillions in just 24-36 hours. And RGCC does this without changing the genetics or epigenetic expression of your cancer cells. This is remarkable and what no one I know of, can do or will do at this time.

What All Is Tested with the OncoStat Plus Test?

The absolute beauty of this test is the ability to test what **your** cancer responds to without having any idea of where the primary tumor is located or even the type cancer it is. The lab will test **53** common chemo drugs and **45-49** natural substances and this is for all types of cancers, while most other labs are often limited to the approved drug list and no other lab (I am aware of in the world is interested or can test the natural substances).

RGCC, Ltd. will test **[45-49]** natural substances covering cytotoxic agents; immunostimulants/immunomodulators, cytokines; and increase of PBMC & NK, growth factor inhibitors of EGFr, IGFr, VEGFr, PDGFr, FGFr, and signal transduction pathways. The results show the **%** of sensitivity and/or resistance of each individual agent to induce apoptosis (cell death) to <u>your cancer cells</u>, i.e. ex-vivo.

The test also includes **[53]** chemotherapeutic agents. These include **[22]** alkylating agents, **[1]** epothilone, **[3]** inhibitors topoisomerase 1, **[9]** inhibitors topoisomerase 2, **[5]** nucleus spindle stabilizer 1, **[3]** nucleus spindle stabilizer 2, and **[10]** nucleoside analogues. You will also receive **[4]** resistance factors (MDR1, MRP, LRP, GST). The results shows, in %, the sensitivity and resistance of each agent tested. In other words which chemotherapy works best against <u>your cancer cells</u>.

You also receive results on **[72]** <u>tumor related genes</u> (this is very important): **[27]** related to growth factors and proliferation stimuli; **[14]** related to self-repair and resistance; **[5]** for angiogenesis; **[9]** for cell cycle regulation and immortalization/apoptosis; **[5]** covering angiogenesis-metastasis; **[13]** concerned with drug metabolism and targets; and **[4]** markers and **[45]** biological modifiers. You receive these results in % of over or under control, very exact. This will give your health care provider more detailed information about your cancer and their ability to grow and metastasize faster, their ability to resist certain drugs, the tendency to become immortal and much more. This is the true beauty of detailed **Personalized Patient-Centered Cancer Care**. I know of no other testing like it in the world.

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How Do We Use All This To Personalize Support For Those With Cancer?

Our first goal is to decrease the tumor burden and the CTC's/CSC's. This severely stresses your immune system everyday all day. There are several ways of doing this. **First**, surgery early on will work 50% of the time for the primary tumor (rarely killing any CTC's/CSC's). **Second**, is chemo therapy which can be used in conjunction with surgery. **Third** is radiation and this can be used in combination with any of the previous (rarely killing any CTC's/CSC's). However, this is up to your oncologist to decide, hopefully they will choose the chemo-drug that kills your cancer. In regard to the natural substances, our goal is to help support the immune system, help improve lifestyle, and support the physiological and biochemical processes of the human body by offering the integration of various nutritional support systems. This is also done using the test results to develop a <u>Personalized Patient-Centered Cancer Care</u> program for you. Generally, we will re-test (onco-count or onco-trail, not the entire test as in the beginning) every 3-4 months to measure the actual circulating tumor and/or stem cell like cell numbers. We also recommend you follow your oncologist schedule of ongoing PET/CT, MRI etc. testing. Since cancer is a systemic, chronic disease our goal is to help you live a quality and productive life, for as long as you should, and then leave this earth with the cancer **NOT** from the cancer. **Our goal is to have the tumors gone or stable and your cell count below 2 cells/ml**. Then we can talk about the long term goals and mostly involves LIFESTYLE.

I have included a number of quotes and publications below that may be helpful for you to in making a truly informed decision of which lab you want testing your circulating cancer tumor and stem cells to see which chemotherapeutics and natural substances can cause the decrease of your tumor burden. While keeping in mind, the circulating CTC's/CSC's are the real ongoing, long term trouble makers for at least **90%** of cancer patients. I have also included a 6 page list of everything tested by RGCC, Ltd labs of Greece. **May you be blessed in all you do**.

If you have any questions please let us know so we can clear up any concerns, also visit our website.

We offer referrals for health care providers throughout the United States, Canada, and North Central America

**This test will NOT DETECT cancers of the brain or other cancers that have been "encapsulated" by the body, not releasing circulating tumor or stem cells (CTC, CSC) into the blood stream or if any of these cells are dormant. We still recommend the use of biopsy, blood markers and/or various scans with this test when cancer is suspected or known to exist. No test is 100% accurate.

EXCITING NEWS FOR RGCC, Ltd OF GREECE 04.23.12

We are in the pleasant position to announce that we have passed the assessment and validation from the National Organism of Accreditation and they have accredited our lab with the ISO 17025:2008 for the following methods:

- 1. CTC/CSC isolation and immunophenotyping
- 2. Cancer cell culture viability/cytotoxicity assays after exposure to substances
- 3. Gene expression assays (mainly related with cancer stemness)

I hope that this will help our physicians their patients and other clients understand our level of commitment to quality and remove any doubts that may have existed concerning the validity of the assays since this accreditation includes inter-laboratory validation (performance of the assays from different labs which we have no interest or relation).

We will utilize such tools as often as needed to promote the quality and sincerity of our work.

ISO 17025 identifies the high technical competence and management system requirements that guarantee your test results and calibrations are consistently accurate.

This accreditation is recognized and accepted throughout the international scientific and laboratory communities as the standard of excellence.

1. The contribution of cytotoxic chemotherapy to 5-year survival in adult malignancies.

MATERIALS AND METHODS:

We undertook a literature search for randomized clinical trials reporting a 5-year survival benefit attributable solely to cytotoxic chemotherapy in adult malignancies. The total number of newly diagnosed cancer patients for 22 major adult malignancies was determined from cancer registry data in Australia and from the Surveillance Epidemiology and End Results data in the USA for 1998.

The overall contribution of curative and adjuvant cytotoxic chemotherapy to 5-year survival in adults was estimated to be 2.3% in Australia and 2.1% in the USA.

<u>Clin Oncol (R Coll Radiol).</u> 2004 Dec;16(8):549-60 <u>http</u>

http://www.ncbi.nlm.nih.gov/pubmed/15630849

Vincent T., Jr. DeVita, Theodore S. Lawrence, Steven A. Rosenberg - Cancer: Principles & Practice of Oncology: Primer of the Molecular Biology of Cancer, Lippincott Williams & Wilkins; 1 Pap/Psc edition May 2011, Page 163, 164.

The next 3 quotes come from the above textbook:

- 1. "Evidence for the existence of biologically distinct CSC's, first demonstrated in a hematological malignancy and in the past 5 years in several solid tumors, has shaped a new paradigm of human cancer as a hierarchical disease whose growth is sustained by a population of CSC's. This conceptual shift has important implications not only for researchers seeking to understand mechanisms of tumor initiation and progression, but also for the development and evaluation of effective anticancer therapies".
- 2. "Thus, research must be directed at the <u>relevant cell populations as identified through functional assays</u>, the <u>ultimate</u> goal being the rational development of therapies that interfere with the oncogenic program within the CSC's."
- 3. "In contrast, the CSC model postulates that with an appropriate purification strategy, the CSC's with the capacity to initiate and sustain tumor growth *in vivo* can be identified and isolated from the bulk cells that do not have tumor-initiating activity."

"Here we show that a small population of cancer stem cells is critical for metastatic colonization, that is, the initial expansion of cancer cells at the secondary site, and that stromal niche signals are crucial to this expansion process".

Malanchi I, Martinez-Santamaria A, Susanto E, Peng H, Lehr HA. Interactions between cancer stem cells and their niche govern metastatic colonization. Nature 481,85–89 (05 January 2012)doi:10.1038/nature10694.

"Cancer lethality is mainly due to the onset of distant metastases and refractoriness to chemotherapy. Growing evidence indicates that a cellular subpopulation with stem cell-like features, commonly referred to as cancer stem cells (CSC's), is critical for tumor generation and maintenance".

Maugeri-Saccal M, Vigneri PG, De Maria R. Cancer Stem Cells and Chemosensitivity._*Clin Cancer Res.* 2011 Aug 1;17(15):4942-7. doi: 10.1158/1078-0432.CCR-10-2538.

"When health is absent, wisdom cannot reveal itself, art cannot manifest, strength cannot fight, wealth becomes useless and joy cannot be felt." **Herophilus**

"Discovery consists of seeing what everyone has seen and thinking what nobody else has thought." Albert Szent-Gyorgyi "All truth passes through three stages: **First:** it is ridiculed **Second:** it is violently opposed **Third:** it is accepted as being self-evident" **Schopenhauer**

A perfect example below:

"Ignaz Philipp Semmelweis (July 1, 1818 – August 13, 1865) (born Ignác Fülöp Semmelweis) was a Hungarian physician of German extraction now known as an early pioneer of antiseptic procedures. Despite various publications of results where hand-washing reduced mortality to below 1%, Semmelweis's observations conflicted with the established scientific and medical opinions of the time and his ideas were rejected by the medical community. Some doctors were offended at the suggestion that they should wash their hands and Semmelweis could offer no acceptable scientific explanation for his findings. Semmelweis's practice earned widespread acceptance only years after his death..."

Stress is definitely just a decrease of happiness, joy, peace, and calmness, always things are decreased as a result of stress. There is virtually nothing that stress does not effect on a physiological level in every person. Remember it is the "fight or flight" that keeps you alive on one hand and can even kill you on the other hand, with many negatives between these 2 extremes.

<u>Epigenetics</u>: Epigenetics has also played roles in evolution and has served as a molecular driver of mutations. Moreover, the changing environment is currently reshaping the evolution of many organisms through plastic epigenetic processes. Epidemiological factors such as diet, environmental exposure, microbial infections and drugs are also influencing our daily lives through epigenetics.

Trygve, Tollefsbol- Handbook of Epigenetics, The New Molecular and Medical Genetics, Academic Press; 1st edition October 1, 2011, page 6, 978-0-12-375709-8 ISBN

The dumbest organ is much smarter than the smartest doctor. Professor in school. <u>The wisdom of the body</u>!

Max Wicha, M.D. Distinguished Professor of Oncology Director, University of Michigan Comprehensive Cancer Center

"The problem is, when we treat cancer cells with chemotherapy, the cancer stem cells are being stimulated to grow too." "When we take mesenchymal stem cells and mix them with tumor cells, the tumors grow much more quickly in animals." Dr. Wicha's lab has found that inflammatory molecules secreted by **dying tumor cells can hook up with the stem cells** and cause them in effect to come out of hibernation.

- Adult stem cells exist in most tissues, and go into action to repair damage from wounds or infections.
- In cancer, they can mutate and no longer obey normal bodily signals to stop growing, Dr. Wicha said.
- He and other researchers say that even when **chemotherapy and radiation cause tumors to shrink dramatically**, **these stem cells can stay alive**, living under the radar until they are once again spurred into action.
- They also believe **stem cells are probably the ones that break away from an original tumor** and cause cancer to spread elsewhere in the body.
- Chemo and radiation kill off the fastest-growing cells in the body, which applies to most cancer cells, but **the cancer stem cells** that create those rapidly dividing tumor cells actually grow much more slowly themselves, and **are less susceptible** to those therapies, he said.
- One tactic to address this problem is to kill off both types of cancer cells at once, Dr. Wicha said.

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- A recent experimental trial with advanced breast cancer patients at the University of Michigan, Baylor University in Texas and the Dana-Farber Cancer Institute at Harvard University used standard chemotherapy **along with a substance designed to block one of the biochemical pathways of stem cells.**
- The approach **killed off more than 90 percent of the cancer stem cells**, Dr. Wicha said, and researchers now hope to expand the treatment to a much larger group of patients.
- Ultimately, he hopes cancer treatments can avoid general chemo altogether, with its debilitating side effects, and just use targeted therapies against the stem cells.
- There is still a long road ahead, he said, and "my feeling is, to really knock these stem cells out, we're probably going to have to use **multiple inhibitors**."

You Tube http://weeksmd.com/?p=5014 and

http://wn.com/professor_max_wicha_breast_cancer_stem_cell_regulation

NOW read the Public "retraction"....

"Cancer patients, follow recommended care!

"An article published by the Post-Gazette claimed that our research suggests cancer treatments "not only often fail to eradicate cancer, but can make it worse" This statement has been misinterpreted by patients currently receiving radiation or chemotherapy treatments. I have been contacted by both my own patients and Pittsburgh-area patients who have questioned whether they should continue with their chemotherapy. In fact, these treatments are lifesaving for many patients.

Our work does suggest that the resistance of a small population of tumor cells to these treatments may account for some of their limitations. Based on this, we are working to develop new approaches to target this specific cell population — treatments that could augment chemotherapy and radiation therapy. New treatments based on this theory are in their early testing stages. Only through the conduct of rigorous clinical trials will we be able to determine whether addition of these new therapies improves the outcome for patients with cancer.

In the meantime, patients diagnosed with cancer need to follow their doctors' recommendations for treatment according to the current standards of care and inquire whether they are eligible for a clinical trial".

MAX WICHA, M.D. Distinguished Professor of Oncology Director, University of Michigan Comprehensive Cancer Center Ann Arbor, Mich.

Dr Bruce Zetter Professor of Cancer Biology in the Department of Surgery, Boston Children's Hospital

"As many as 90% of all cancer deaths can be attributed to metastatic disease. Cells from the primary tumor, after travel to regional or distant sites, cause failure of essential organs including the lungs, liver, brain and bone marrow. Significant advances in the field make this an exciting time for the study of metastasis. Genetic signatures in primary tumors as well as circulating tumor cells and oligonucleotide or protein biomarkers hold the promise of predicting cancer outcomes and allowing selection of optimal drug candidates. The isolation of circulating tumor cells has further improved our ability to analyze the tumor genotype. The ability to metastasize is influenced by the invasive potential of cells in the primary tumor and particularly by self-renewing tumor cells that have properties of cancer stem cells".

http://www.fusion-conferences.com/conference4.php.

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PEASE READ CAREFULLY, THIS IS VERY, VERY IMPORTANT !!

<u>Question</u>: How large does a tumor have to be in order to have access to the blood stream? <u>The Answer</u>: between ONLY 1-2 mm (which is only 1/4 to 1/2 the size of a BB @ 4.4mm). This is how early cancer can send out the circulating CTC's and CSC's into your blood stream, no wonder we have such a problem with cancer metastasis. Most all CT, MRI, PET scans cannot even see the tumor at this size, even if they knew where to look and this early you would have absolutely no symptoms!

...most primary solid tumors probably go through a prolonged state of avascular, and apparently dormant, growth in which the maximum size attainable is ~1–2 mm in diameter. Up to this size, tumor cells can obtain the necessary oxygen and nutrient supplies they require for growth and survival by simple passive diffusion; (ii) these microscopic tumor masses can, in some way, eventually switch on angiogenesis by recruiting surrounding mature host blood vessels to begin sprouting new blood vessel capillaries which grow toward, and eventually infiltrate the tumor mass, thus setting in motion the potential for relentless expansion of the tumor mass and hematogenous metastatic spread as well... Robert S. Kerbel ,Tumor angiogenesis: past, present and the near future, Carcinogenesis (2000) 21(3): 505-515 doi:10.1093/carcin/21.3.505

WHAT DOES PERSONALIZED PATIENT-CENTERED CARE REALLY MEAN?

When you treat a disease, you will win some and loose some.

When you treat the patient with the compassion they deserve, everyone wins regardless of the outcome. Paraphrased from the movie Patch Adams.

"The doctor cannot overcome what the patient will not do." Unknown This is "Patient-Centered Care"

William Osler: Canadian Physician one of the four founding professors of Johns Hopkins Hospital (Opened on May 7, 1889). July 12, 1849- December 29, 1919. The 3 quotes below:

"It is much more important to know what sort of a patient has a disease than what sort of a disease a patient has."

"The good physician treats the disease; the great physician treats the patient who has the disease".

"The future is today".

AND THIS IS EXACTLY WHY WE USE THE RGCC CANCER TEST, THE BEST OF THE BEST!

Our Philosophy is the <u>Principles and Practice of Naturopathic Medicine</u>

Naturopathy "<u>nature disease</u>" coined in 1895 by John Scheel. Modern naturopathy grew out of the Natural Cure movement of Europe and popularized by Benedict Lust, the "father of U.S. naturopathy"

First, Do No Harm— primum non nocere

The Healing Power Of Nature— vis medicatrix nature

Treat The Whole Person Individually— tolle totum

Identify And Treat The Causes Not Just The Effect— tolle causem

Preventive Medicine Is The Best— previnare

Doctor as Teacher, of Healthy Lifestyle— docere



Serving the United States, Canada and North Central America

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THESE LIST ARE UP TO DATE AS OF 2.13.14 EVERY ITEM ON THESE 6 PAGES ARE TESTED ON EVERY CANCER PATIENT SHOWING EXACT % OF EFFECTIVENESS OF EACH PRODUCT. NO LAB IN THE WORLD EVEN COMES CLOSE!!

(53) CHEMOTHERAPEUTIC AGENTS TESTED + (4) RESISTANCE FACTORS

ALKYLATING AGENTS (22)

ACNU—NIMUSTINE ALTRETAMINE—<u>HEXALEN</u> BCNU—<u>CARMUSTINE</u> BENDAMUSTINE—TREANDA BLEOMYCIN—BLENOXANE CARBOPLATIN—PARAPLATIN CCNU-LOMUSTINE CHLORAMBUCIL—<u>LEUKERAN</u> CISPLATIN—PLATINOL CYCLOPHOSPHAMIDE—CYTOXAN DTIC ESTRAMUSTINE—<u>EMCYT</u> HYDROXYUREA—DROXIA/HYDREA IFOSFAMIDE—IFEX MELPHALAN—<u>ALKERAN</u> MITOMYCIN—MITOMYCIN C NEDAPLATIN— AQUPLA OXALIPLATIN—ELOXATIN PROCARBAZINE—MATULANE TEMOZOLOMIDE—TEMODAR TREOSULFAN TROFOSFAMIDE—IXOTEN

EPOTHILONES (1)

IXABEPILONE—<u>IXEMPRA</u>

INHIBITORS OF TOPOISOMERASE I (3)

CPT11—<u>IRINOTECAN</u> GIMATECAN TOPOTECAN—<u>HYCAMTIN</u>

CHEMOTHERAPEUTIC AGENTS TESTED CONTINUED

INHIBITORS OF TOPOISOMERASE II (9)

AMRUBICIN-HYDROCHLORIDE—<u>CALSED</u> DACTINOMYCIN—<u>COSMEGEN</u> DAUNORUBICIN—<u>CERUBIDINE</u> DOXORUBICIN—<u>ADRIAMYCIN</u> EPIRUBICIN—<u>PHARMORUBICIN</u> ETOPOSIDE—<u>VEPESID</u> IDARUBICIN—<u>IDAMYCIN</u> LIPOSOMAL DOXORUBICIN—<u>DOXIL</u> MITOXANTRONE—<u>NOVANTRONE</u>

NUCLEUS SPINDLE STABILIZER I (5)

ABRAXANE—<u>PACLITAXEL</u> CABAZITAXEL—<u>JEVTANA</u> DOCETAXEL—<u>TAXOTERE</u> ERIBULIN—<u>HALAVEN</u> PACLITAXEL—<u>TAXOL</u>

NUCLEUS SPINDLE STABILIZER II (3)

VINBLASTINE—<u>VELBAN</u> VINCRISTINE—<u>ONCOVIN</u> VINORELBINE—<u>NAVELBINE</u>

NUCLEOSIDE ANALOGUES (10)

5FU—<u>5-FLUOROURACIL</u> CAPECITABINE—<u>XELODA</u> CYTARABINE—<u>CYTOSINE ARABINOSIDE</u> FLUDARABINE—<u>FLUDARA</u> FUDR—<u>FLOXURIDINE</u> GEMCITABINE—<u>GEMZAR</u> MTX—<u>METHOTREXATE</u> PEMETREXED—<u>ALIMTA</u> RALTITREXED—<u>TOMUDEX</u> UFT—<u>URACIL</u>—<u>TEGAFUR</u>

RESISTANCE FACTORS (4)

MDR1 MRP LRP GST

5-AZACYTIDINE—<u>VIDAZA</u> // ABIRATERONE—<u>ZYTIGA</u> // ALEMTUZUMAB—<u>CAMPATH</u> // ANASTROZOLE—<u>ARIMIDEX</u> // ANTIANDROGEN (GOSERELIN) // AXITINIB—<u>INLYTA</u> // BEVACIZUMAB—AVASTIN BORTEZOMIB—VELCADE // BRENTUXIMAB VEDOTIN—<u>ADCETRIS</u> // CATUMAXOMAB—<u>REMOVAB</u> // CETUXIMAB (225)—<u>ERBITUX</u> // CRIZOTINIB—XALKORI // DASATINIB—<u>SPRYCEL</u>// ERLOTINIB—<u>TARCEVA</u> // EVEROLIMUS/TEMSIROLIMUS—AFINITOR, ZORTRESS // EXEMESTANE—<u>AROMASIN</u>®// FULVESTRANT—<u>FASLODEX</u> // GEFITINIB—<u>IRESSA</u> // GEMTUZUMAB OZOGAMICIN—<u>MYLOTARG</u> // GOSERELIN—<u>ZOLADEX</u> // IBRITUMOMAB—<u>ZEVALIN</u> // IMATINIB-MESYLATE—<u>GLEEVEC</u> // IPILIMUMAB—<u>YERVOY</u> // LAPATINIB—TYKERB // LEUPROLIDE—<u>ELIGARD, LUPRON DEPOT</u> // NILOTINIB—<u>TASIGNA</u> // OCTREOTIDE—<u>SANDOSTATIN</u> // OFATUMUMAB—<u>ARZERRA</u> // OLAPARIB—AZD-2281 // PANITUMUMAB—VECTIBIX // PAZOPANIB—<u>VOTRIENT</u> // PERTUZUMAB—PERJETA // REGORAFENIB—<u>BAY 73-4506</u>// RITUXIMAB—RITUXAN // RUXOLITINIB—<u>JAKAFI</u> // SEMAXANIB—<u>SU5416</u>// SORAFENIB—<u>NEXAVAR</u> // SUNITINIB—SUTENT // TAMOXIFEN // TOSITUMOMAB—<u>BEXXAR</u>// TRABECTEDIN—<u>YONDELIS</u> // TRASTUZUMAB—<u>HERCEPTIN</u> // VANDETANIB—<u>CAPRELSA</u> // VEMURAFENIB—<u>ZELBORAF</u> // VORINOSTAT—<u>ZOLINZA</u>//

(72) TUMOR RELATED GENES TESTED + (4) MARKERS

GROWTH FACTORS & PROLIFERATION STIMULI (27) SS-r **Progesterone Receptor Estrogen Receptor** p180 COX2 5-LOX NFkB IkB(a,b,c) EGF Ras/Raf/MEK/Erk mTOR c-erb-B1 c-erb-B2 Bcr-abl ALK EML-4-ALK NPM-ALK CD 117(c-kit) RET IGF-r 1 IGF-r-2 NR3C4-A Testosterone receptors NR3C4-B DHT receptors JAK 1/2 PTEN c-JuN c-fos SELF REPAIR-RESISTANCE (14) **HSP 27 HSP 72**

HSP 72 HSP 90 Gamma GC (gene for drug resistance) DNA METHYLTRANSFERASE 1 DNA DEMETHYLASE 06-METHYL-DNA-TRAN TGF-b (transforming growth factor-beta) Histone deacylase dipeptide HDAC HAT CXCR4 CXCR12 CXCL12

TUMOR RELATED GENES TESTED CONTINUED

ANGIOGENESIS (5)

VEGF (vascular endothelial growth factor FGF (fibroblast growth factor) PDGF (platelet derived growth factor) ANG 1 ANG 2

CELL CYCLE REGULATION & IMMORTALIZATION/APOPTOSIS (9)

E2F1 CDC6 P27 (gene of the cycle-dependent kinase inhibit P53 (gene; DNA gene guardian) P16 (tumor suppressor gene; stops tumor cell death) BCL-2 H-TERT HUMAN TELOMERASE M2 Bax CD95 (fas-r)

ANGIOGENESIS-METASTASIS (5)

KISS-1-r Nm23 nonmetastatic gene 23 MMP (matrix metalloproteinase) c-MET 67LR (Laminin receptor)

DRUG METABOLISMS & TARGETS (13)

CES1&2 carboxyesterase DPD dihydropyrimidine dehydrogenase UP Uridine phosphorylase NP Nucleoside phosphorylase TP (thymidine phosphorylase) TS DHFR (dihydrofolate reductase) SHMT serine Hydroxymethyl- transferase) GARFT RIBO-NUCLEOSIDE REDUCTASE CypB1 ERCC1 RRMI

MARKERS (4) CD33 MYELOID CELL ORIGIN CD52 LEUKEMIA MARKER CD20 LYMPHOMA RELATED ANTIGEN EPCAM EPITHELIAL MARKER

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NATURAL SUBSTANCE LIST TESTED (45)

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AHCC (Active Hexose Correlated Compound)//
AMYGDALIN (B-17, LAETRILE)//
ARABINOGALACTAN//
AROMAT8-PN™//
ARTECIN®//
ASCORBIC ACID (INTRAVENOUS)//
BIO Ae MULSION FORTE®//
BIO-D-MULSION® OR NuMEDICA MICELLIZED D3®//
CELLULAR VITALITY//
CRUCIFEROUS COMPLETE//
C-STATIN//
CURCUMIN (TUMERIC) CURCUMA SORB (formally MERIVA®)//
CV247//
DCA (dichloroacetate)//
DEXTROL//
EPIMUNE COMPLEX//
FERMENTED SOY EXTRACT//
FUCOIDAN//
GENISTEIN//
INDO 3 CARBINOL//
INTENZYME FORTE™//
LYCOPENE//
MAMMARY PMG ®//
MELATONIN//
METFORMIN //
MISTLETOE//
NALTREXONE//
Nrf2 ACTIVATOR™//
OLEANDER EXTRACT ANVIRZEL™ //
OPC SYNERGY™//
PAW-PAW//
PME (poly mannose extract from aloe vera)//
POLY-MVA®//
PROTEO-XYME<sup>™</sup>//
QUERCETIN//
RESVERATROL//
RETENZYME FORTE®//
SALICINIUM<sup>™</sup>//
SALVESTROL //
SUPER ARTEMISININ//
SUPEROXIDE DISMUTASE//
THYMEX<sup>®</sup>//
UKRAIN//
VIRXCAN™//
VITANOX//
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