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The Secret of Cancer: "Short-Circuit" in the Photon Switch

Change in the medical world-view of tumorology - The rational Cell Symbiosis Therapy concept

In western countries every third person suffers from some form of cancer, every fourth person dies of it. The prognoses of the WHO state that by the year 2050 half of all mortalities will be due to a cancerous disease.
According to the prevailing cancer theories chance defects (mutations) in the DNA in the nucleus, which are regarded as irreparable, are considered to be the primary cause of the disease. Standard therapy in oncology (operations, chemotherapy and/or radiation therapy) is based on this assumption. The cure rates of cancer (minimum of 5 years survival after diagnosis) are given as being 45% (22% surgical treatment, 12% radiation therapy, 5% chemotherapy, 6% combined standard therapies). 60 –70% of patients with incurable cancer are palliatively treated with radiation therapy, 50% with chemotherapy and less than 1% of the patients are treated surgically (EU data, 2003). In the USA, for instance 20% of the overall health budget is spent annually on chemotherapy for cancer patients.

The Nobel Prize winner Professor Watson, who together with Crick discovered the double helix of DNA in the nucleus, the most prominent promoter of the 1971 "War on Cancer" succinctly declared in 2003: "First we have to understand cancer before we can cure it." The background to this sobering thought after decades of most intensive research efforts and a massive capital injection is the fact that the classic mutation theory of oncogenesis has been forever shaken by newer research. Under the mutation theory a tumor colony develops from a single "degenerated" body cell that through uncontrolled division is thought to pass on identical DNA defects to all daughter cells. However, it has become apparent that each individual cancer cell, even within the same tumor of a patient, features a different genetic variation.

The internationally respected cancer researchers Professor Weinberg from the MIT in Cambridge, USA and Professor Hahn from the Dana Farber Cancer Research Center in Boston, both supporters of the classic mutation theory, published in 2002 an overview of the ostensibly still puzzling six "diabolic acquired capabilities" of cancer cells. These attributes include the ability to:

1. resist exogenous growth-inhibitory signals
2. generate their own mitogenic signals
3. bypass apoptosis
4. acquire vasculature
5. gain potential immortality
6. invade and metastasize

The "Cell Dyssmybiosis Concept" (Kremer 2001) explained for the first time the six "acquired capabilities" of cancer cells as an evolutionary-biologically programmed natural (albeit overregulated) protective switch of the divisionally active human cells during permanent chronic cell stress. The origin of this concept was the evolutionary-biological discovery that humans owe their biological existence, like all nucleic single- or multi-cellular creatures (eukaryotes), to a unique act of integration deep in the history of evolution. Roughly 2 billion years ago two unicellular organisms without nuclei from the archaea and bacteria domains fused to a new single cell type that is now termed protista. Comprehensive comparative sequence analyses regarding the genetic make-up and specific proteins of archaea, bacteria and a multitude of eukaryotic organisms including humans produced an astonishing result: About 60% of the genes in a human nucleus originate from the primeval archaea (A genome) the remaining genes having a bacterial origin (B genome), which in particular in the nucleus are delegated by the bacterial symbionts that have survived up until today in all human cells as mitochondria (on average 1,500 per cell).
There is a controlled division of labour between the A genome and the B genome: The A genome dominates the late cell division phases, the B genome drives the early cell division phase and the differentiated cell performances of the respective cell types.

From these fundamental cellular biological facts, on the basis of the integration of a large number of new experimental and clinical research data the cell symbiosis concept leads to the following conclusions about oncogenesis and cancer therapy:

1. There is a controlled alternate switch between the mitochondria and both nuclear subgenomes
2. Transformation to cancer cells is a functional (not structural) failure of this alternate switch, after the divisional phase cells are no longer sufficiently able to switch back to the differentiated cell performance phases
3. The cause of this permanent function failure is the gradual deficiency of one of the central functions of mitochondria, namely to supply ca. 90% of the "universal energy-storing and energy-transporting molecule" adenosine triphosphate (ATP) for practically all biosyntheses and metabolic processes. Under normal circumstances roughly one's body weight of ATP has to be synthesized and then broken up every day. ATP cannot be stored and the actual stock in human beings is enough for only 5 seconds. When the mitochondrial functions are disturbed cancer cells switch intermittently or permanently to the archaic form of ATP synthesis in the cytoplasm (glycolysis) with, potentially, up to a 20-fold increase in the glucose turnover at the cost of the organism as a whole (cachexia resulting from the forced degradation, especially of muscle proteins for the benefit of carbon intermediary products for glycolysis, is one of the most frequent causes of death in cancer patients)
4. Hitherto perceptions about the synthesis and function of ATP molecules, the basis of all cellular biological medical theories, are, however, objectively false. ATP has 3 molecule groups: 1 base adenine ring molecule that absorbs the light quanta near to ultra-violet levels of 270 nm, 1 sugar molecule with 5 carbon atoms as well as a 1 molecule string with 3 phosphate groups.
   The current dogma, based on a theory formed more than 60 years ago by the later Nobel Prize winner Lippmann, is that electron energy is transferred in the respiratory chains of mitochondria (of which there are literally thousands in every mitochondrion as shown by EM photographs) on discharge of "energy-rich" electrons from nutrients via a kind of electrochemical battery, to protons which for their part drive ATP synthesis energetically and store their surplus energy in the phosphate bonds of ATP. These "energy-rich" phosphate bonds of ATP transported into the cytoplasm then release this stored energy via hydrolysis mainly to maintain the energetic processes of cell metabolism. Biochemical experiments have clearly shown, however, that the phosphate bonds of ATP are not especially rich in energy and on hydrolysis only heat energy is released that can at the most be used for heat production by isotherm cells (constant cell temperature). The fundamental question of the actual mechanism for the acquisition of cell energy remains unanswered. This fact explains the predominant failure of cancer prevention and therapy up until now.

5. Biochemistry and medical science have failed to this day to explain the function of the adenine groups of ATP as no biochemical reaction with this adenine ring molecule is shown. However, an understanding can be gained, within the framework of the cell symbiosis concept, from the biophysical attributes of light absorption of the adenine group. All essential components of mitochondrial cell respiration are light absorbing molecules with characteristic "frequency windows" of absorption maxima from nearly UV spectrum to the longer wave yellow/orange spectral range of visible light up to ca. 600nm. Yet the source of the electromagnetic energy is not sunlight. In fact a low frequency pulsating electromagnetic field is induced by the constant flow of uncoupled, paramagnetic aligned electrons in the respiratory organelles. The electromotive power generated by this process is catalytically enormously strengthened by the enzyme complexes of the respiratory chain (acceleration factor10^{17}). .This effects an interaction between the electrons and the protons likewise aligned parallel to the induced magnetic field dependent on the strength of the magnetic field between the antiparallel aligned electrons and protons. This process produces a quantum dynamic transfer of information via photon exchange energy. The source of photons is ultimately fluctuations of resonance frequencies of the physical vacuum (zero-point energy field). The transferred information is stored in the spin of the protons that proceed to the ATP synthesis

complex via proton gradients. There the resonance information is transferred by a unique rotation system to the adenine group of ATP whose electrons can move freely in the alternating double bonds of the ring molecules. The ATP serves as an "antennae molecule" for the reception and relaying of resonance information from the "morphogenetic background field." Human symbiosis is consequently not a heat power machine but a light frequency modulated information transforming medium. All the time this cell symbiosis is resonance coupled with the lowest not yet materialized energy status (physical vacuum as inexhaustible "global information pool").

6. In oncogenesis, for a diversity of reasons, there is a functional disturbance especially to the 4^{th} enzyme complex of the respiratory chain. The task of this complex, according to conventional opinions, is to transfer the inflowing electrons to molecular oxygen at the end of the respiratory chain and thus reduce it to water. In the cell symbiosis concept, however, the crucial factor is that in reducing O_2 to water completed electron couplings induce an antimagnetic impulse, and the electromagnetic alternating field for resonance information transfer switches on and off at an extremely fast periodic time interval (in picoseconds). If the electron flows to O_2, however, are permanently disturbed then a failure in the modulation of ATP occurs and increasing numbers of oxygen and other radicals form that can attack and damage the macromolecules (nucleic acids, proteins, lipids, carbohydrates). In order to prevent this danger the key enzyme hemoxygenase upregulates. This enzyme uses O_2 as cofactor for the production of carbon monoxide (CO). In cases of long-term surplus production CO gas has crucial effects on cancer cell transformation:

- CO gas effects a characteristic phase shifting of the absorption of visible light from components of the respiratory chain and as a result "short-circuits" the photon switch for the modulation of the information transfer to the mitochondrial ATP
- CO gas activates in the cytoplasm certain regulator proteins for the stimulation of the cell division cycle also without external growth signals (see above: 1^{st} "acquired capability")
- CO gas effects via enzymatic overactivation of the important secondary messenger substance cyclic guanosin monophosphate (cGMP) the inhibition or blockade of communication between neighboring cells (2^{nd} "acquired capability" of cancer cells)
- CO gas blocks programmed cell death by bonding onto the bivalent iron in important key enzymes (3^{rd} "acquired capability" of cancer cells)

The result is a polar program reversal: The transformed cancer cells remain trapped, dependent on the degree of malignancy, in a continuous cell division cycle and can not switch back to the differentiated cell performances of the respective cell types without biological compensatory aid. According to recent clinical knowledge the cancer cells become especially malign and disperse massive metastatic cells when the O_2 supply to tumor cells via capillary blood vessels is impeded. In these cases chemotherapy and radiation treatment are no longer effective as without the presence of molecular oxygen programmed cell death of the cancer cells can no longer be induced. In this situation cancer patients are considered incurable by oncologists using standard cancer therapy.

The cell symbiosis concept postulates that when the cofactor O_2 is deficient then the even more effective cyanide gas (CN^-) is formed insteadof CO. CN^- is in humans the strongest mitochondrial respiratory poison and produces an even stronger phase switching of the absorption of visible light, probably by the well known inhibition of the reduction of trivalent irons to bivalent irons of certain hemocytochromes of the respiratory chain. This hypothesis can support the evolutionary-biological views of the cell symbiosis concept as cancer cells regress *de facto* to unicellular organisms (as a result of the loss of cell to cell communication with neighboring tissue cells) and that is why they behave like "cell parasites" (4^{th}, 5^{th}, and 6^{th} "acquired capability" of cancer cells). Cancer cells represent in this sense a regression to the early eukaryotic stage of a single cellular protista colony and so use as a strategy of survival the conserved archive of evolution in human

nuclear genomes depending on the actual given milieu conditions of the individual cancer cells (for the individual genetic variations, see above)

7. In 2003, American cancer researchers confirmed a functional disruption of cancer cells in the 4th complex of the respiratory chain despite simultaneously intact messenger RNA and intact mitochondrial DNA, without being able to explain this phenomenon. However, at the end of 2002 a cancer research group from Helsinki University, after many years of animal experiments and clinical studies, were able to exactly document for the first time - using electronmicroscopes and mass spectrometers – that the transformation to cancer cells is actually caused by the loss of control of the cell division cycle of the mitochondria. The clinical research team could demonstrate that the tumor cells after a relatively short time had re-programmed to intact, normal differentiated cells without signs of programmed cell death by using a particular experimentally mediated bioimmunological compensation therapy on various human cancer diseases. These patients under conventional tumor therapy had a survival status of on average less than 12 months. In 2003 researchers from the Anderson Cancer Research Center of the University of Texas in Houston published the first wide-ranging overview about the hundreds of animal experiments on the effects of curcumin, the active ingredient of turmeric (Curcuma Longa, from the ginger family, biochemically, curcumin I from the molecular family of polyphenols, also termed bioflavonoids, synthesized from plants) on cancer cells and metastases. The researchers were amazed to discover that curcumin effectively inhibited nearly all signal paths in tumor cells and metastases. The researchers were unable to provide an explanation to this wide-ranging effect. The actions of curcumin can, however, be explained if you know that curcumin in the violet spectral range of visible light absorbs with nearly the same wavelength - 415 nm - as the electron-transferring molecule cytochrome *c* that is more rapidly broken up by the protective enzyme hemoxygenase in cancer cells. In cancer cells curcumin, so to say, bridges the III and IV complex photon switch "short-circuit" of the respiratory chain in mitochondria and thus normalizes the information transfer for maintaining modulation of ATP. The quoted research data show that (in opposition to the prevailing cancer theories of supposedly irreparable gene defects in the nucleus) the demonstrated functional disruptions of the transfer of information in cell symbionts can be re-normalized by means of an adequate biological compensation therapy. The concept of cell symbiosis therapy (Kremer 2001) derived from knowledge gained from cell symbiosis research has in the meantime led to spectacular therapeutic successes (in individual cases even in cancer diseases that had been declared incurable). There is a broad spectrum of classes of substances responding to natural light available and the potential is by no means exhausted. What is desperately needed, however, is a comprehensive overhaul of the current state of research with the aim of developing optimized therapeutic formulations and to make them available for clinical and therapeutic practice. Admittedly, achieving this purpose through an interdisciplinary research group within the established health system is not to be expected in the foreseeable future, as conventional medical science has largely remained stuck in the one-sided thermodynamic energy concepts of the 19th Century.

   Recommended Literature:
   Heinrich Kremer MD: The Silent Revolution in Cancer and AIDS Medicine
   510 pages, 77 illustrations and 17 plates
   To be released at www.Xlibris.com Fall 2007