The Beljanski Approach: Outside the Box

by Monique S. Beljanski

The job of the physician is to alleviate and, if possible, eradicate disease.However,accomplishing this is often very difficult as most treatments for cancer also come with significant adverse effects, often making it impossible to truly recover and compromising the patient's remission. Essentially, the potential benefit of the treatment is thwarted by its harsh toxicity.

Biologists and physicians are charged with the task of understanding the origin of the disease and preventing its appearance and development. Both physicians and scientists approach this task differently, but their goals are complementary.

On the one hand, complementary and alternative medicines look for substances that can be effective without inducing negative side effects. Yet, within their ranks they often lack the disciplined scientists needed to provide them such a treatment. On the other hand, conventional medicine, being well connected with the pharmaceutical industry, rejects this approach entirely as something which is impossible and unprofitable.

This dilemma calls for innovation -- for thinking outside the box -- and thus was born the Beljanski Approach. It applies rigorous scientific standards to a combination of traditional and holistic approaches.

The late Mirko Beljanski, PhD., a biologist-biochemist who worked for over 30 years at the famous Pasteur Institute in Paris, devoted a book to the exploration of the basic principles of DNA replication and transcription, and the role of trigger molecules in normal and malignant gene expression.[1] In his book, Beljanski focused on complex mechanisms at the biochemical level, analyzing the pathways involved when cells differentiate or escape control during cancer development. Mirko Beljanski devoted much effort to investigating the role of endogenous and exogenous molecules in triggering the differential release of information from DNA as well as influencing cell transformation. He also dedicated many years to searching for a "selective" orthobiological concept. He hoped to uncover the fundamental factors at the root of sickness or dysfunction and devise treatments, all without interfering with healthy cell function, long before this was the trend. He was one of the very few researchers that combined use of natural products with conventional cancer treatment, and demonstrated that these methods worked in conjunction with one another to the patient's benefit.

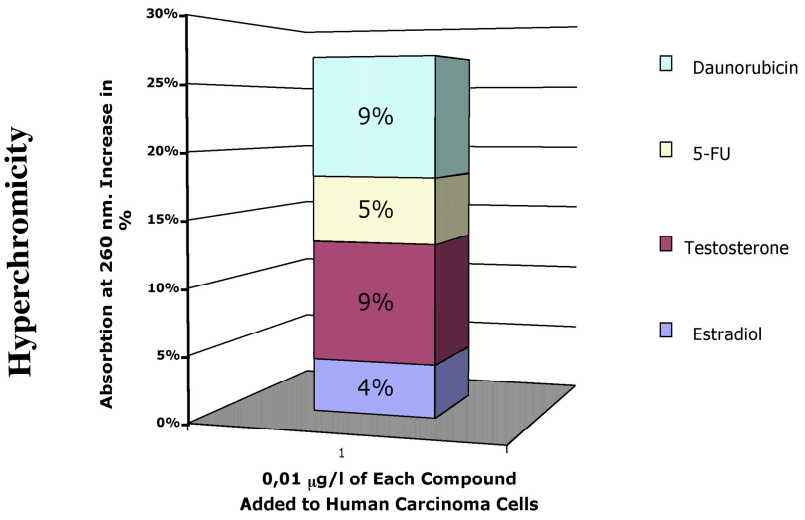
All the products he developed are totally free of side effects, are of plant or biological origin and are taken orally. Of the many products he developed, this article will focus on two in particular: those that selectively target cancer DNA and cancer cells.

Selective substances targeting cancer DNA

The rapid multiplication of cancer cells is an exact reflection of the biological behavior of their DNA, whose physical characteristics as well as biological activity (DNA duplication and transcription) are elevated, compared to the DNA of healthy cells. Mirko Beljanski showed that activity of DNA is influenced by several factors: gene expression, enzymes involved in gene expression and factors which favor or impede DNA synthesis, all of which can be amplified or minimized.[1] He performed a series of *in vitro* experiments with DNA purified from various cancer cells.

He found that carcinogens trigger the unwinding of the cancer-DNA's secondary structure by successively and randomly attaching to vulnerable sites in purified cancer DNA.[1,2] An accurate visual method for measuring the soundness of the secondary structure is to evaluate its chromicity, that is to say, how much light passes through it.

Cumulative Separation of DNA Double Strands (Hyperchromicity)



He further observed that the unwinding of the cancer DNA is perfectly proportionate to the increase in DNA synthesis, which also correlates to the in vivo rate of cancer cell multiplication.[2] Each destabilizing substance contributed in varying degrees to the separation of the strands in the cancer DNA helix.[3] Their effects are additive and cumulative.

Interestingly enough, steroids were found to behave like carcinogens so long as the DNA utilized came from hormonally targeted tissues. Moreover, the increased multiplication at the cellular level seen with two frequently used biochemical products, DMSO and TPA, active in cell differentiation, can be explained by their ability to destabilize DNA.[4]

Yet none of these effects is observed in healthy cell DNA. **I n fact, the DNA in healthy cells is not destabilized in the presence of carcinogenic compounds, nor is the behavior of healthy cells modified.**

Seeing the consistency in the results observed in the experiments with carcinogens,[5] Mirko Beljanski devised a test, the Oncotest,[6] which illustrates the effect of substances with carcinogenic potential on *in vitro* synthesis of cancer-DNA versus healthy cell DNA. Mutagens or not, it demonstrated that all carcinogens behave in very much the same way.[7]

Cancer-Fighting Drugs

A: At the DNA level

Dr. Beljanski then reasoned that a substance that reacts in an equal and opposite way from carcinogens must surely exist. While carcinogens increase unwinding and duplication in cancer DNA, Beljanski looked for molecules that would do the opposite, that is to say partially close the D N A strands and slow down cancer DNA synthesis. The Oncotest provided the tools necessary to search for just such a compound.

And in fact, Dr Beljanski discovered two: the plants *Pao Pereira* and *Rauwolfia vomitoria*. The extracts from these plants were able to wind the secondary structure of the cancer-DNA back up again (termed "hypochromicity"), thereby decreasing both duplication of cancer DNA and multiplication of cancer cells. Their actions selectively target cancer DNA and cancer cells, with no effect whatsoever on healthy cell DNA and behavior.[8]

Lengthy studies were conducted with several specific aims, namely: to isolate the active compound in each plant extract, identify their individual properties and evaluate their toxicity as well as how they affect i*n vitro* cultures of cancer cells and normal cell lines. It also was necessary to find a good method for purification and enrichment of the active factors.

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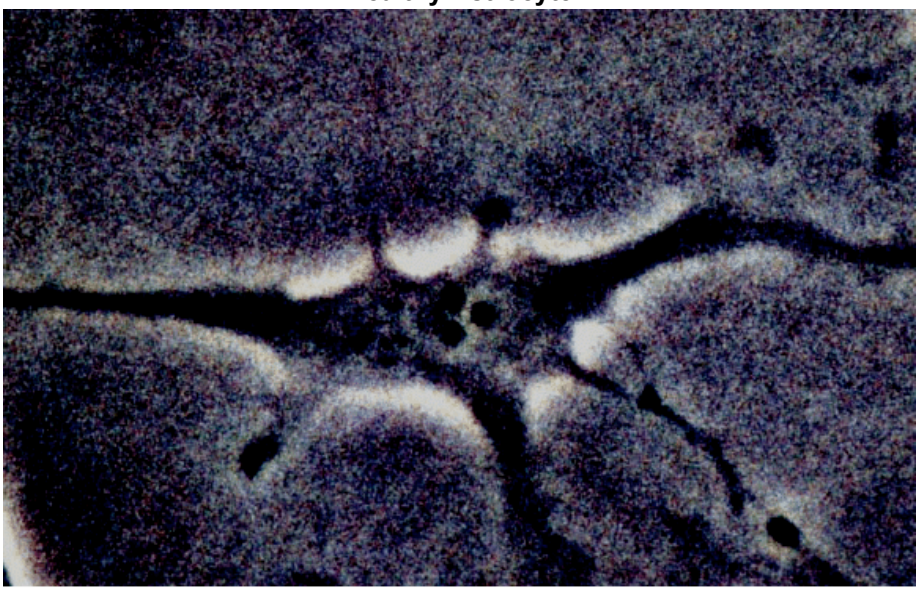
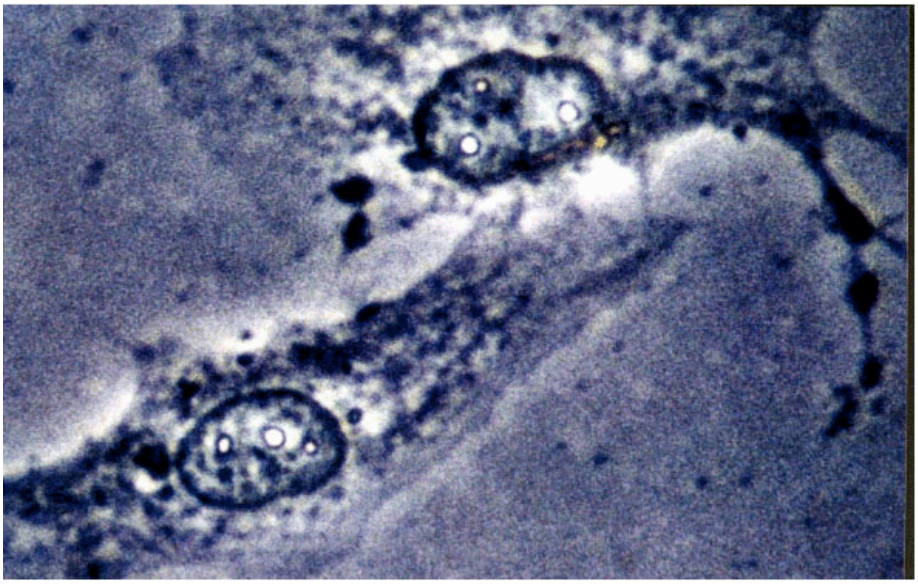
Healthy Astrocyte



Cancerous Glioblastoma Cell



The Beljanski Approach

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B: At the cancer cell level

Studies in vitro

DNA behavior is the microcosmic reflection of the cell's behavior. Thus inhibiting cancer DNA duplication prevents cancer cell multiplication. This was extensively tested both on normal and cancer cells cultured *in vitro* both in the presence and absence of the two purified plant extracts.[9,10] Healthy cells were unaffected in every scenario.

Mirko Beljanski showed that carcinogenic compounds (or hormonal compounds) had to compete with the cancer-fighting extracts, both at the DNA level and the cellular level (during multiplication).

Thanks to the natural fluorescence of the two active substances in both plant extracts, it was possible to observe whether the cancer-fighting drugs entered the cell. It is known that healthy cells, i.e. those having stable DNA secondary structures, have a membrane that is essentially positively charged (+) and impenetrable to many substances. Cancer cells, to the contrary, have a negatively charged (-) membrane, which is porous. Mirko Beljanski was thus able to observe that the fluorescent extracts remained outside healthy cells but entered cancerous ones.

Thus the double specificity of the cancer-fighting extracts was demonstrated, first, at the DNA level, and second, at the level of cell permeability.

Many studies have since been conducted to determine the characteristic profile of the extracts, their toxicity *in vivo*, etc. Lastly, pharmacological studies have also been developed.

While both plant extracts share the ability to selectively target cancer cells, they are not entirely alike. For instance, one works particularly well in hormone-dependent tissues. This is particularly helpful since Mirko Beljanski observed the same competition between the extracts and hormonal compounds as he has seen between the extracts and carcinogens.

Studies in vivo

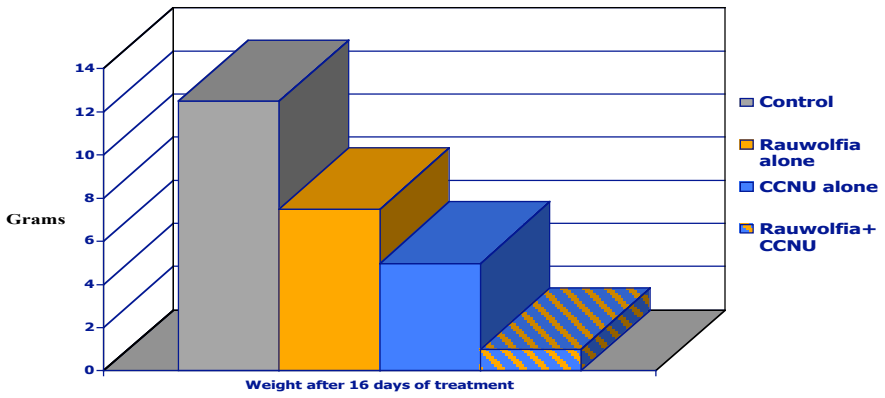
Following these experiments, both plant extract were then extensively used to destroy cancer cells in mice.[11] Various strains of cancer cells were grafted onto the mice after which both plant extracts were used in order to evaluate their ability to prevent ascitic cancer cells and solid tumors. The results of these experiments were reported in Dr Beljanski's many publications, the list of which may be found at www.beljanski.com.

Synergy

Typical cancer fighting treatments (i.e. chemotherapy, radiations) are well known for their ability to destroy

COMPARATIVE CHART OF TUMOR REDUCTION

USING COMBINED RAUWOLFIA & CCNU (Lomustine) TREATMENT

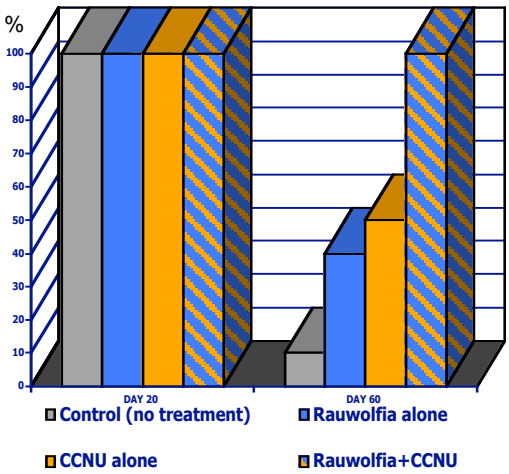


Comparison of tumor reduction in mice

COMPARATIVE SURVIVAL RATES

RAUWOLFIA Extract & CCNU (Lomustine)

- Mice grafted with YC8 lymphoma cells
- Survival after 20 and 60 days
- CCNU treatment and /or Rauwolfia
- 0.2 mg x2 i.p./ day during 5 days



both healthy and malignant cells, especially those in rapid division. However, at lower doses, these treatments serve to destabilize the DNA thereby increasing replication. In other words, they behave like carcinogens. Knowing that the plant extracts he was studying were intercalating agents, Mirko reasoned that the increase in DNA openings would actually enhance their binding and could therefore be used to the patient's advantage (12). This benefit has been observed in vitro during DNA synthesis, as well as in vivo in the proliferation of cancer cells in mice. In the latter case, the advantageous synergy of treatments was measured both in the weight of the excised tumors and the length of survival among the animal subjects.

Much later on, the beneficial results were confirmed in those patients undergoing either chemotherapy or radiation treatments and taking at the same time one of the two extracts.

Furthermore, these selectively cancer-fighting substances have been extensively studied and used concurrent with chemotherapy or radiation therapy by many doctors in Europe to treat numerous cancers. This treatment combination is particularly effective, facilitates remission, and also allows the patient to enjoy a higher quality of life than he would otherwise have experienced with traditional therapy alone.

Collaboration

Recently the manufacturer of the Beljanski® products, Natural Source International Ltd, collaborated with Dr. Aaron Katz and Dr. Debra Bemis of Columbia University's Department of Holistic Urology to carry out further studies. The preliminary results confirm the ability of these plant extracts to destroy prostatic cancer cells in vitro. Furthermore, Dr. Bemis and Dr. Katz also observed positive results when studying the effects of these products on mice that had LNCaP prostatic cancer cells grafted onto them.

Spurred on by these observations, a series of experiments were performed in order to determine the specific mechanism by which the extracts successfully kill cancer cells. They determined that the cells were killed through apoptosis, but that the active mechanism was somewhat different, specifically in the cell cycle effects of two extracts.

Prostabel®

In light of these findings, Natural Source International Ltd came up with the idea to benefit from the different strengths of the two plant extracts by combining them in one supplement, marketed under the name "Prostabel®." This unique combination provides the dual benefits of both plant extracts in a potent and completely non-toxic formula – an extremely promising possibility for the many men for whom prostate health is a concern. A Phase I clinical trial on healthy men with elevated PSA markers has already been announced on Columbia University's website:(www.ccc.columbia.edu/protocol/web_adult.html).

Prostabel® marks the newest in a line of products with a long history of customer satisfaction. While the Beljanski® products were only introduced to the US a little over a decade ago, they had already been extensively used in Europe for over two decades with the same degree of satisfaction. After Dr. Beljanski passed away, Natural Source International Ltd, a young American company, received the rights to the Beljanski patents and is now the exclusive manufacturer of his products. One of the very first to introduce the Beljanski strategy for the treatment of cancer was Dr. Michael Schachter, who presented this approach in his lecture to the American College for the Advancement in Medicine (ACAM) (Spring 2003).

Since then, Mirko Beljanski's innovations have been advanced by other well-respected journalists and scientists, several of whom published related articles in this and other publications. In the June 2004 issue of the Townsend Letter, Dr. John Hall expounded on Beljanski's theory of carcinogenesis and introduced the most recent findings of a Columbia University study conducted on the two extracts, the same ones detailed in this paper. Prior to that, journalist Morton Walker, DPM, published a detailed article on Beljanski's research on these cancer-fighting molecules (November 2003, Townsend Letter). The scientific integrity and ingenuity of these findings continues to attract the attention of those who are serious about cancer treatment.

Beljanski's multi-pronged approach is completely new, and more and more doctors are becoming aware of the utility of using multiple therapies in conjunction with one another. The products themselves, free of side effects, easy to administer and taken as nutritional supplements make this approach all the more palatable. All this was made possible thanks to Mirko Beljanski's expansive knowledge of biological mechanisms, the fruits of his many years dedicated to research and his freedom from any hampering relationship with industrial interests.

Monique S. Beljanski is retired from the National Center of Scientific Research (CNRS) in France and worked with her late husband, Mirko Beljanski, PhD, for more than twenty years at the Pasteur Institute, as well as for two years in Severo Ochoa's department at New York University, followed by 10 years at the Faculty of Pharmacology in France. She is the co-author of many of Mirko Beljanski's publications, and the author of several books.

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The Beljanski Approach

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For more information regarding the work of Dr. Beljanski, please refer to the following:

www.beljanski.com
www.PubMed.gov/
www.Evibooks.com
www.natural-source.com

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