Angiogenesis Inhibition Derived from Bindweed Herbal Extract

During the summer of 1987, forty-nine year-old Myrna Simone Corbette, a teacher working in the Tulsa, Oklahoma public school system, was diagnosed with ovarian cancer. Because of the malignancy's metastases to other parts of her body, Ms. Corbette's oncologist told her that she had less than one year to live. "My evaluation of your Stage III malignancy," she remembers the cancer specialist saying, "causes me to predict that even with your undergoing chemotherapy or even with surgery, this disease will end your life. I'm sorry that nothing can be done."

Since there was no hope for her, the teacher refused to go through any kind of standard cancer treatment. Instead, she went looking for help in a variety of places which were far removed from the medical mainstream. One of the odder forms of treatment she adopted involved her consulting a renowned shaman (medicine man) tending to the healing needs of some Oklahoma Indian tribes. After listening to her health history, this medicine man gave Ms. Corbette a plant tincture that he had prepared with instructions for her to swallow a few drops of it every day. She faithfully followed the shaman's directions for more than twelve months.

After the first eight days of taking his tincture Ms. Corbette saw that the size of her abdomen, which had expanded greatly due to ascites, was beginning to be less prominent. By the end of three weeks the teacher's cancer symptoms had improved greatly; swelling totally disappeared from her body. And her physical progress continued throughout the entire time that she took the tincture. During one of Ms. Corbette's frequent visits to the shaman to refurbish her tincture supply, she learned that his medicine was derived from the most common of wild growing plants, the ubiquitous Bindweed known botanically as Convolvulus arvensis.

Photograph 1: The chicken Chorioallantoic Membrane Assay (CMA) which tests the Proteoglycan Mixture (PGM) derived from bindweed is shown here with no addition of the PGM phytochemical to the cultured egg embryo. Blood vessels are seen growing vigorously.

Bindweed, the Most Common of Weeds
Convolvulus arvensis is a nightmare for farmers wherever it grows. Any commercial/phytochemical processing procedure which makes use of the bindweed plant could become worthwhile for people everywhere.

Bindweed flourishes throughout the world, including all over Europe, in China and other Asian countries, and in the western hemisphere from northern Canada to near the southern end of South America. Farmers have actually nicknamed bindweed "the cancer of weeds," because this twining vine from the morning-glory family wraps itself around useful plants such as corn and wheat. It eats up the nutrient supply of worthwhile grain crops and other human food plants. The twining vine chokes them to death.

Therefore to harvest bindweed for some advantageous purpose is an act of great goodness that contributes to living organisms all over the planet. From within the tissues of this ubiquitous killer weed an extract may be produced consisting of a powerful therapeutic component, Proteoglycan Mixture (PGM). It is beneficial for cancerous tumors because PGM is antiangiogenic. The proteoglycan mixture has been tested and found to be more than 100 times more effective by weight against benign and malignant tumors than is shark cartilage. The PGM angiogenesis inhibitor is manufactured as a food supplement and distributed as a commercial nutritional adjunctive capsule under the brandname, VascuStatin.

Bindweed Comes to the Attention of Riordan and Riordan
As I have described, a tincture of bindweed had restored the Tulsa, Oklahoma teacher, Myrna Simone Corbette, to full recovery, and her diagnosing oncologist later found that just one year after she had last consulted him no sign of ovarian cancer or its metastases remained in her body. She thanked
providence and felt blessed that the Indian medicine man possessed the knowledge of bindweed.

Then, in 1994 Ms. Corbette learned about an oncological father-and-son research team to whom she could tell her story. She thought it would be useful for other people to know that an alternative method of healing cancer, something less toxic and unnatural than chemotherapy, radiation therapy, and surgery, does exist. So, still teaching and full of joyful living, she related her experience to Riordan and Riordan.

The Father and Son Oncological Researchers

These two highly astute phytochemical researchers for cancer remedies, the father, psychiatrist/orthomolecular medicine specialist Hugh D. Riordan, MD, and his very knowledgeable son, physician's assistant Neil H. Riordan, PA-C, are providing health care professionals with new techniques for combatting cancer. Both of them are now or have been biochemical scientists at the BioCommunications Research Institute, a division of the Center for the Improvement of Human Functioning in Wichita, Kansas. Neil H. Riordan, who worked at the Center for 14 years, currently conducts his separate clinical practice devoted to applying adjunctive nutritional therapy for cancer patients at the Aidan Clinic of Tempe, Arizona.

The Riordans' investigative works-in-progress involve licensing their various discoveries, including (a) the application of vitamin C to eliminate malignancy and (b) the benefits of prescribing certain additional nutrients to dramatically lower the possible LD50 (median Lethal Dose) of IV-C (IntraVenous vitamin C) for doing away with cancer cells. This article discusses bindweed herbal extract, just one of their major anticancer developments. A future Medical Journalist Report of Innovative Biologies column will report on another of the Riordans' nature-derived breakthroughs against mutagenic cell growth, Muramy1 Polysaccharide-Glycan Complex (MPGC).

Together, the team of Riordan and Riordan is bringing new medical knowledge of consequence about herbal extracts to oncological therapists and other health professionals internationally.

Angiogenesis Inhibition from Bindweed Herbal Extract

Their joint efforts have uncovered phytochemical components in the leaves of the omnipresent wild-growing Convolulus arvensis whose leaves are loaded with the previously mentioned cancer-reducing substance, Proteoglycan Mixture (PGM). This finding by the Riordans is highly significant in tumorgenesis therapy for at least five reasons. They include:

1. Produced as an herbal extract, the PGM of bindweed or VascuStatin inhibits angiogenesis (capillary formation) in malignant tumors;

2. VascuStatin has shown itself to quickly stop abnormal cellular growth in cancerous mice;

3. VascuStatin is potent in its effects in every route of in vivo administration (by oral, subcutaneous, intravenous, and/ or intraperitoneal introduction);

4. VascuStatin brings about marked in vitro lymphocyte proliferation and phagocyte activity;

5. VascuStatin exhibits powerful immune stimulating properties.

Testing the Antineoplastic Effects of Bindweed

Using the standard chicken egg Chorioallantoic Membrane Assay (the same type of laboratory test applied by I. William Lane, PhD, MA, to prove the antiangiogenic effect of shark cartilage), the Riordan research team learned that the PGM they were extracting from bindweed inhibits angiogenesis from 18% (for doses of 50 mcg per egg) to 73% (for doses of 200 mcg per egg).1

In viewing the chicken egg Chorioallantoic Membrane Assay (CMA) shown in Photograph 1 and Photograph 2, realize that the observation of chick embryos by scientists over half-a-century has given them a great deal of information about the development and special properties of certain innovative biologies.

The following description indicates how the assay works with no PGM added (see Photograph 1): Investigators note that in chick embryos, the limb "bud" is nourished by capillaries. One of the capillaries near the center of the limb soon becomes enlarged and forms the major limb artery. Near this artery, in the core of the limb, the remaining capillaries disappear. By the fourth day of the embryo's development (about twelve hours before limb cells become committed to particular developmental paths), no capillaries remain in the core of the limb. At the edge of the limb, the major artery becomes a complex capillary bed.2

With PGM present (see Photograph 2), cells at the very center of the chicken egg limb produce the biological substance that inhibits vascularization. The PGM has an antiangiogenesis effect, resulting in the growth of fewer capillaries and starvation of the egg limb. (The same response takes place within cancer tissue when PGM is present.) Thus, as indicated by the chorioallantoic membrane assay, angiogenesis is inhibited in a dose dependent manner by PGM.

Animal Testing of Extracted Proteoglycan Mixture

The Riordans found that PGM significantly inhibited tumor growth in the mouse fibrosarcoma (S-180 Kun Ming) affecting three- to four-week-old mixed male and female laboratory mice. With ten animals in each group, 250 to 1000 mcg daily doses of PGM were administered for fourteen days. Additionally, mouse Lewis lung carcinoma was treated in six-week-old mixed male/ female mice with the same extract for the same length of time. For both types of cancer, tumor inhibition occurred in 54% to 77% by weight of mice compared to controls. The route of administration — oral, subcutaneous, intraperitoneal, or...
intravenous — was not a factor in effectiveness. Also, PGM-treated phagocytes' ability to cannibalize yeast cells was 85% greater than in controls. PGM induced lymphocyte growth in a dose-dependent manner too, and this indicated that bindweed's proteoglycan mixture is a moderate immune stimulator.

Availability of PGM as a Commercial Nutriceutical
In our telephone interview, Neil Riordan, PA-C advised: "I license the technology of extracting bindweed's PGM from the Center for the Improvement of Human Functioning and then relicense the extracted PGM to wholesale nutritional supplement distributors through my own company, Aidan Products, LLC. Under my licensure, Stephen Levine, PhD, founder and president of Allergy Research Group, distributes the PGM I furnish. Dr. Levine has private-labeled an excellent proteoglycan mixture that he has named VascuStatin™.

"Many animal trials have proven the efficacy of PGM. One of the animal studies of greatest significance is being held for potential publication right now by the peer-reviewed journal, Anticancer Research. Some of the data is very important to have for cancer therapy but since they are not yet published, I cannot give them to you for your own article," Neil Riordan says. "Plus, there is a human clinical trial going on right now under the supervision of internist/oncologist Ben Pfeifer, MD, PhD, Professor and Director of Clinical Research at the Aesklap Cancer Center in Brunnen, Switzerland. Dr. Pfeifer is compiling PGM research data for publication within the next couple of months.

"Added to such future published information is funding for the investigation of PGM by the Cancer Treatment Research Foundation as recommended by the National Cancer Institute," says Neil Riordan.

Confirmation of Excellent Clinical Effects for Patients
A surgeon by training but converted to Complementary and Alternative Medicine (CAM) for almost 30 years, Julian Kenyon, MD, MB, ChB, Medical Director of The Dove Clinic for Integrative Medicine in Hampshire, United Kingdom, has dispensed the VascuStatin™ brand of PGM to his cancer patients ever since it was first available in October 2000. Dr. Kenyon states: "I have used VascuStatin before everyone else except perhaps Neil Riordan who first produced a liquid form of PGM. My staff and I have observational clinical evidence that it is an effective angiogenesis inhibitor. Let me give you some patient histories to illustrate what I mean."
“For another lung cancer patient in which chemotherapy usually is not at all effective, my adding VascuStatin™ to his treatment protocol has allowed the man to respond to chemotherapy and thrive. This patient, age 61, has returned to work as a bank clerk even while his illness is under treatment,” Dr. Kenyon continues. “I can describe a number of such patients. Another interesting case is a woman who has undergone a laryngectomy because of thyroid cancer. This caused her great difficulty with swallowing until I put her on a standard dose of VascuStatin™, two capsules twice a day. She can swallow without trouble now.”

From Cincinnati, Ohio, Leonid Macheret, MD, Medical Director of the Partners in Wellness Treatment Center, reports: “VascuStatin™ has had a significant impact for some of my patients. One such person, a 34 year-old female, Caucasian, married with two children, failed all previous chemotherapy for ovarian cancer. She underwent surgical excision of the cancer. Due to side effects from reconstructive surgeries performed on her intestines, however, she had difficulty in digesting and absorbing nutritional agents of any kind. Apparently the addition of VascuStatin™ as an add-on supplement made such a dramatic difference for her, she is still well and remains free from metastatic cancer.”

“Another patient of mine is a 49 year-old male, Caucasian, with esophageal cancer and metastasis to the liver,” Dr. Macheret continued. “Despite his taking multiple supplements and IV treatment, this patient was doing poorly. However, by adding VascuStatin™ to his treatment program, this patient’s quality of life improved markedly for 18 months after his diagnosis. He then died, but his original prognosis had been only a maximum of three months to live.”

“Combining the PGM of VascuStatin™ and MPGC (muramyl polysaccharide-glycan complex, a non-toxic purified extract of the bacterial cell walls of gram-positive bacteria), results in tumor regression at a dose of 1000 mg per day of each,” says Neil Riordan. “We have seen regressions of tumors in people using four to six capsules of each per day. It is likely that a greater response could be seen with higher doses. We use a maintenance dose of four capsules per day of both the PGM and the MPGC after patients start to respond. The fastest shrinkage we have seen is in ten days – in a liver metastasis from colon cancer.”

“A clinical judgment has to be made about how long to keep a patient on PGM and MPGC. The female patient with liver metastasis and pancreatic cancer outlined in one of the published articles about these substances has been on PGM for seven months. Her tumors are 90% reduced but not gone. Both agents are very safe for long-term use. We do not yet know how high the optimal therapeutic dose can go, which means we may be able to achieve even greater therapeutic effect,” continues Mr. Riordan. “And the only contraindications for use are related to angiogenesis itself. Patients with active wounds, heart disease, or who are pregnant and/or lactating should avoid PGM. We also recommend discontinuation of PGM for two weeks before and after surgery.”

“Using PGM combined with other angiogenesis inhibitors theoretically would improve their efficacy and could result in synergism. In colon cancer we have seen several cases of improvement. In one spectacular case, a large neck metastasis in a male patient with Stage IV colon cancer disappeared after five weeks on PGM and MPGC as his sole therapy,” Neil Riordan states. “I know of a doctor in Memphis who reported on an objective decrease in colon/liver metastasis after ten days on PGM and MPGC.”

“In prostate cancer, we know of one patient who added six capsules each of PGM and MPGC per day to his comprehensive treatment protocol, and he experienced a sharp decline in his PSA. In another instance, we had a prostate cancer patient recently who utilized the combination of immune therapy, IV vitamin C, MPGC plus PGM, and he saw a 50% reduction in PSA after two weeks. However, we have very few ‘clean’ cases of prostate cancer, given that most of the patients are on PC Spes and several other nutrients including high dose Coenzyme Q-10,” concludes Neil Riordan.

Mary Shackelton, ND, of Boulder, Colorado affirms that “VascuStatin™ seems to be responsible for a lot of positive changes in my patients’ treatment.”

From Schuykill, Pennsylvania, Jeff Marrongelle, DC, director of Schuykill Bionutritional, says: “Every one of our patients who has used the extract in their treatment protocol has had a positive effect.”

Summary
The formation of new blood vessels plays a crucial role in cancerous tumor survival and growth. Angiogenesis, the recruitment of a cancer cell’s required new blood vessel growth, is being treated by informed health professionals through the addition of several therapeutic agents which act as angiogenesis inhibitors. Such inhibition is the current area of treatment being actively investigated that holds the greatest promise of conquering cancer.

Proteoglycan mixture derived from the bindweed plant (Convolvulus arvensis) and distributed under the brandname VascuStatin™ is a nontoxic extract that tends to eliminate tumor nourishment by inhibiting the necessary growth of tiny capillaries into the tumor tissue.

The angiogenesis inhibiting qualities of VascuStatin™ are potent, for it definitely shows antitumor effects not only in metastatic malignancy but also at its primary site.

In describing the work of Dr. Judah Folkman, the discoverer of angiogenesis inhibition therapy, Stephen Levine, PhD, writes: “If Judah Folkman does not receive a Nobel Prize for his work on angiogenesis and cancer then we will have to chalk it up to academic politics. Since his chance observation of cancer cell growth and its association with new blood vessel growth, he has held onto his vision. He has fought narrow-mindedness and jealousy, and still has held onto his vision. That vision, and 40 years of research, has led up to one very important development in medical science, and motivated James Watson (Nobel Prize winner for the structure of DNA) to predict the end of cancer in a few years.”

Resource
Under the brandname VascuStatin™, proteoglycan mixture (PGM) is distributed in the form of capsules by Allergy Research Group, 30806 Santana Street, Hayward, CA 94544; Telephone 800-545-9960 or 605-658-7426 or 510-487-8528; Fax: 510-487-8682. Email: salesline@ix.netcom.com

References