

Integrative Medicine and Prostate Cancer: A Look at the Currently Available Evidence



*Natural sources
of Vitamin D*

By Geo Espinosa, N.D., L.Ac, CNS, RH (AHG)

Introduction

The role played by alternative medicine in the prevention and treatment of prostate cancer (CaP) continues to evolve. Although “gold standard” randomized trials are few, such studies have been performed and have provided valuable data to the debate. However it is particularly challenging to properly randomize clinical trials of holistic therapies because, by definition, these therapies involve multiple approaches and interventions. The word holistic is derived from the Greek word ‘holos’, which means “whole”. Holistic practitioners view health and illness as a dynamic web-like interaction between body, mind, spirit, and environment. (1)

While properly designed and controlled clinical trials have clearly contributed to medical science and the treatment of prostate cancer, it is possible that the insistence upon looking at a single therapeutic agent or a single procedure or intervention supplies only one part of “the puzzle”, since there are significant

morbidities resultant from CaP treatment and the benefits of detecting CaP in many men continues to be controversial (2). In the words of Albert Einstein, “what counts can’t always be counted; what can be counted doesn’t always count.”

It might also be considered that clinical experience, in addition to highly structured research studies, may provide vital evidence that guides the best patient care. While many are quick to dismiss clinical experience as merely “anecdotal” evidence, most physicians would admit that our best teachers are our patients. Trained holistic practitioners often witness the benefits of guiding patients to manage stress, consumption of a plant-based diet, meditation and/or prayer, exercise, and intelligent use of supplements. This synergistic approach not only has a profound effect on PSA (which can be misleading) but has been shown to significantly slow the progression of CaP and improve patients’ quality of life. (3)



Why Urologists do not Practice Complementary and Alternative Medicine (CAM)

The involvement of CAM in the management of prostate cancer has become increasingly popular among CaP patients in recent years. Despite its popularity, urologists remain understandably dubious about CAM-related therapies. First, most medical schools do not have courses in nutrition, CAM, or herbal medicine in their curricula. Secondly, there are intangible benefits of holistic medicine that are difficult to measure, and most CAM research studies are short (usually less than 6 months), small (usually less than fifty patients), and rarely double-blinded or placebo-controlled. Thirdly, there are safety concerns. In contrast to pharmaceutical drugs, the mechanism of action of many herbal agents has not been elucidated, which makes it difficult to accurately predict adverse herb-drug interactions. Lastly, and perhaps most concerning, the quality of over-the-counter herbal products is questionable. According to independent surveys, some popular

herbal products are adulterated with contaminants – in some cases pharmaceutical agents – and can contain concentrations different than the labeled amount (4,5)

The Role of Integrative Medicine for Prostate Cancer

Integrative medicine for prostate cancer has become increasingly popular among CaP patients. Nearly 43% of CaP patients currently use some form of alternative medicine (6). There are multiple connected ideas woven together that appear to lead prostate cancer patients toward CAM use: the prevalent notion that CAM is safe; the desire to avoid the side effects that some traditional therapies carry with them; a positive view of the holistic nature of CAM; and a sense that through the use of CAM, a higher sense of control over their condition might ensue (7).

Many reasonably well-designed studies have shown the beneficial role of some supplements and lifestyle modification with regards to the management of prostate cancer.

Vitamin D

Vitamin D is believed to be important in the protection of human prostate cells (8). Epidemiological studies indicate that sunlight exposure is



inversely proportional to prostate cancer mortality and that prostate cancer risk is greater in men with lower levels (Continued on Page 4)



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DEFINITION of TERMS

There is currently no general consensus among CAM practitioners for the definition of these terms. These definitions are from the National Center for Complementary and Alternative Medicine (NCCAM) and the American Holistic Medical Association. Often the terms “CAM” and “Integrative Medicine” are used interchangeably.

Complementary medicine refers to the use of a non-traditional medical approach together with conventional medicine. An example of a complementary therapy is the use of aromatherapy to help lessen a patient’s discomfort following surgery.

Alternative medicine typically refers to the use of a non-traditional medical approach in place of conventional medicine. The most popular therapies include nutrition, herbs, acupuncture, chiropractic, naturopathic medicine, and homeopathy.

Complementary and alternative medicine (CAM) is a group of diverse medical and health care systems, practices, and products that are not presently considered to be a part of conventional medicine, such as naturopathic medicine, acupuncture, chiropractic, massage, and homeopathy. CAM therapies used alone are often referred to as “alternative.” When used in addition to conventional medicine, they are often referred to as “complementary.”

Integrative medicine combines mainstream medical therapies and CAM therapies for which there is some high-quality scientific evidence of safety and effectiveness.

Holistic medicine is the art and science of healing that addresses care of the whole person - body, mind, and spirit.

of vitamin D (9). Optimal serum 25 (OH)-vitamin D levels have not been defined, though research indicates 90-100 nmol/l (36-40 ng/mL) may be ideal (10). One human study of advanced prostate cancer reported that the combination of vitamin D and the chemotherapy agent Taxotere® was twice as effective as Taxotere® alone based on PSA response (11). A minimum of 2000 IU a day should be taken (12), although it is my clinical experience that it may take up to 10,000 IU a day for some people to get their 25 (OH)-vitamin D to get blood levels up to 90 to 100 nmol/l. It is important to be monitored by a qualified physician when taking higher dosages than 2000 IU of vitamin D.

Pectasol – Modified Citrus Pectin (MCP)

A commonly used natural agent in the integrative treatment of CaP is Pectasol®, a modified citrus pectin compound derived from the rind and pith of citrus fruit. Pectasol® seems promising in the integrative treatment of prostate cancer, and may inhibit the spread of cancer by binding to galectin molecules and blocking them. Galectins are adhesion and blood vessel-attracting surface molecules that are thought to be involved in the spread of cancer(13). Early research on prostate cancer showed that oral administration of MCP to rodents resulted in a dramatic reduction in prostate cancer metastasis to the lungs (14).

A pilot trial studying the intake of 15 grams a day PectaSol®, as well as a subsequent phase II trial, both showed that MCP slows the progression of prostate cancer as evidenced by a reduction in the rate of PSA rise. The phase II trial involved men where primary conventional treatment was initially successful, but in whom serum PSAs began to climb again, auguring cancer recurrence. Seventy (70) percent of the trial participants (7 out of 10 men) showed a significant reduction in the rate of their PSA climb (15). A limitation of this trial is the low number of participants. Based on pre-clinical outcomes, the reports of physicians using MCP (27), and the outcome of the Guess et al. human study (15), the use of MCP in the management of CaP remains intriguing. Still, more and larger studies are needed before definite conclusions can be drawn.

Lifestyle Modification to Reduce CaP Progression – the Ornish Trial

Only recently has the argument been made that certain lifestyle modifications, such as an exercise regimen, stress management practices, and targeted diet might have a positive impact in slowing the progression of CaP. Dean Ornish, M.D. and his research staff have reported a study on this approach.

Ornish et al., found 93 men with early biopsy-proven prostate cancer who volunteered to forgo radiation, chemotherapy, and surgery for their disease. He randomized the cancer patients into a lifestyle modification group, which included a strictly plant-based diet along with other healthy behaviors (such as walking thirty minutes a day six days a week) and meditation, or to a control group which just watched and waited (watch and wait group).

By the end of the year-long study, six of the control group patients had dropped out because their tumors were growing. Magnetic resonance imaging (MRI) or diagnostic tests of cancer activity showed that their tumors were growing at such a rate that these patients decided that they could wait no longer and opted for a combination of radical surgery, chemotherapy or radiation.

Not one of the lifestyle group participants suffered the same fate. In fact, while on average the cancer activity increased in the watch and wait group (as measured by PSA tests), cancer markers decreased in the lifestyle modification group. By the end of the year the cancer growth rate, as measured by these tests, was highly significantly different between the two groups (16).

By 2 years of follow-up, 13 of 49 (27%) watch and wait patients and 2 of 43 (5%) of the lifestyle patients had undergone conventional prostate cancer treatment (radical prostatectomy, radiation therapy, or androgen deprivation). No differences were found between the groups for other clinical events (heart troubles, e.g.), and no deaths occurred. Three of the watch and wait patients – but none of the lifestyle patients – saw their serum PSA levels rise above 10 ng/mL (17).

The SELECT trial – Study Design Could Have Been Better

It makes a certain amount of sense that before significant money is invested in studying supplements and their role in cancer prevention, experts in nutrition and CAM should be involved in the design of these clinical trials. Unfortunately, this was not the case for the expensive SELECT trial. Early this year the National Cancer Institute

*Integrative
medicine is a
viable option for
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stopped its \$114 million study of whether vitamin E (in the form alpha-tocopherol) and selenium (in the form of L-selenomethionine) can prevent prostate cancer. The trial was called the SELECT trial (SELenium and vitamin E Cancer prevention Trial).

The participants were randomly assigned to receive one of four interventions between August 2001 and June 2004 for a planned minimum follow-up of 7 years:

L-selenomethionine (200 micrograms per day) and a vitamin E placebo;

alpha--tocopherol (400 IU/day) and a selenium placebo;

L-selenomethionine

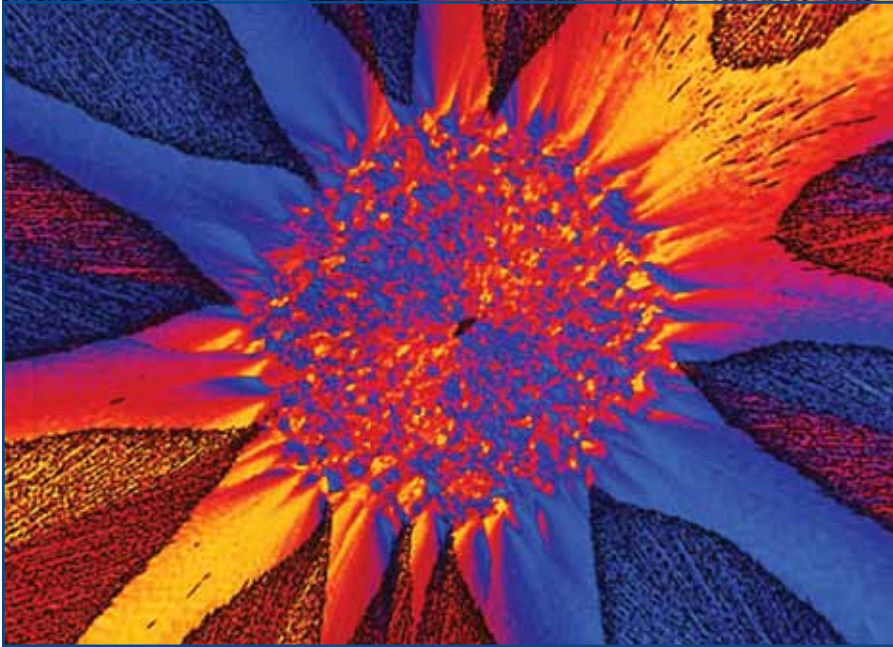
alpha-tocopherol; or placebo.

The safety panel for the 35,000-man study called for a halt when an early look at the data showed no benefit for the treatment. In this clinical trial there were slightly more prostate cancers in men taking “vitamin E “ alone, and slightly more diabetes in men taking only selenium. But neither finding was statistically significant, meaning these findings were likely due to chance (18).

This study reveals a fundamental problem confronting all researchers who seek to “prove” whether a certain supplement prevents a disease. There are too many factors involved in the development and progression of prostate cancer -- including low levels of testosterone, increased levels of estrogen, co-existing diabetes or metabolic syndrome, and over-consumption of saturated fats (19). This multitude of confounding factors makes it difficult to study just one or two compounds and expect to arrive at a validated finding.

Another problem facing researchers today is that by the time human clinical trials are designed, funded, and conducted over multi-year periods, the primary reason for doing the study often turns out to be obsolete. Prior to and during the time the SELECT study began in the year 2000, emerging research was beginning to demonstrate that the alpha-tocopherol component of vitamin E does not protect people from CaP without the other major component of vitamin E, gamma-tocopherol! In fact, the alpha tocopherol form of vitamin E depletes the cells of the more protective form of vitamin E, gamma tocopherol (20).

(Continued on Page 6)



alpha-Tocopherol (Vitamin E): Natural sources of vitamin E are vegetable oils, sunflower seeds, almonds, and peanuts.

Is There a Link Between gamma-Tocopherol and Prostate Cancer

Gamma-tocopherol is a form of vitamin E that is lacking in almost all commercial vitamin E supplements. When high doses of alpha-tocopherol vitamin E are consumed, it “kicks out” critically important gamma-tocopherol from the cells. While alpha-tocopherol inhibits the production of free radicals, it is the gamma-tocopherol form of vitamin E that is required to trap and neutralize free radicals. In a study published in the Proceedings of the National Academy of Sciences (21), researchers reported that it could be dangerous to take high levels of alpha-tocopherol vitamin E without also consuming gamma-tocopherol. The reason for this finding seems to be that too much alpha-tocopherol could deprive the cells of the gamma form of vitamin E that is needed to neutralize existing oxidizing agents such as the peroxynitrite radical, which can be especially damaging.

In a 10,456 men study at the prestigious Johns Hopkins School of Public Health, men who had the highest blood levels of gamma-tocopherol were five times less likely to get prostate cancer(22). In addition to the finding that higher levels of gamma-tocopherol significantly reduced prostate cancer risk, the study also showed that selenium and alpha-tocopherol also reduced prostate cancer incidence, but only when gamma-tocopherol levels are high (22).

The most provocative study found that men with the highest plasma gamma-tocopherol concentrations had a highly significant five-fold lower risk of prostate cancer compared with men in the lowest quintile [lowest 20%] (23). This effect was not significant for plasma alpha-tocopherol concentrations. Other researchers have also found that gamma-tocopherol offers a protective effect against prostate cancer (24-26).

Conclusion

“The future of CaP treatment will not be found in a replacement of conventional therapies with CAM, but in the integration of both disciplines. CAM and conventional medical practices each address the deficiencies of the other. The popularity of CAM underscores the fact that no treatment approach or healing system has all the answers, and our understanding of health and disease -- however complete it may seem to be -- is incomplete and always subject to revision.

The popularity of CAM will continue to grow as baby boomers grow older and seek relief of their prostate problems in the most effective way with the lowest incidence of side effects. “Watchful waiting” seems to be an adequate solution for some CaP patients with low grade CaP and/or other co-morbidities. Rather than “watch and wait”, CaP patients would benefit from an “Active Holistic Surveillance” protocol – a term coined by Dr. Aaron Katz, a holistic urologist at Columbia University Medical center in New York, and myself. Such a protocol would include: guided exercise, stress management practices, the proper use of the right supplements, and a customized plant-based diet. Such an approach might be beneficial not only for CaP patients on watchful waiting or active surveillance, but also for patients seeking mainstream treatment for PSA recurrence following previous therapy.



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