Prostate Cancer Support Association of New Mexico

LIFELINE

PCSA Quarterly Newsletter

October 2010 Volume 17, Issue 4

Issue Highlights

We now have a new website address and e-mail.
www.pcsanm.org
pchelp@pcsanm.org

TIDBITS

Baruch on Competition
"You don't have to blow out the other fellow's light to let your own shine."
Barnard Baruch, financier

Augustine on Learning
"One often hears the remark 'He talks too much.' But when did anyone last hear the criticism 'He listens too much'?"
Norman Augustine, aerospace executive

Walnuts Affect Genes Related to Prostate Tumor Growth in Mice

23 March 2010
Medical News Today

Walnut consumption slows the growth of prostate cancer in mice and has beneficial effects on multiple genes related to the control of tumor growth and metabolism, UC Davis and the U.S. Department of Agriculture Western Regional Research Center in Albany, Calif. have found. The study, by Paul Davis, nutritionist in The Department of Nutrition and a researcher with the UC Davis Cancer Center, announced the findings today at the annual national meeting of the American chemical Society in San Francisco.

Davis said the research findings provide additional evidence that walnuts, although high in fat, are healthful.

"This study shows that when mice with prostate tumors consume an amount of walnuts that could easily be eaten by a man, tumor growth is controlled," he said. " This leaves me very hopeful that it could be beneficial in patients."

Numerous clinical studies have demonstrated that eating walnuts - rich in omega-3 polyunsaturated fats, antioxidants and other plant chemicals - decreases the risk of cardiovascular disease. These findings prompted the U.S. Food & Drug Administration in 2004 to approve, for the first time, a qualified health claim for reducing heart disease risk for a whole food.

Davis fed a diet with whole walnuts to mice that had been genetically programmed to get prostate cancer. After 18 weeks, they found that consuming the human equivalent of 2.4 ounces of walnuts per day resulted in significantly smaller, slower-growing prostate tumors compared to mice consuming the same diet with an equal amount of fat, but not from walnuts. They also found that not only was prostate cancer growth reduced by 30 to 40 percent, but that the mice had lower blood levels of a particular protein, insulin-like growth factor (IGF-1), which has been strongly associated with prostate cancer. Additionally, Davis and his research colleagues looked at the effect of walnuts on gene activity in the prostate tumors using whole mouse gene chip technology, and found beneficial effects on multiple genes related to controlling tumor growth and metabolism.

Cancer is the world's costliest disease, a new report suggests. Cancer costs $895 million globally in '08 in terms of disability and years of life lost, not including the cost of treating the disease. The figure was equivalent to 1.5% of the world's GDP. About 7.6 million people died of cancer in '08, and about 12.4 mil new cases are diagnosed each year.

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In Memory of

Morry Sheehan
Wayne Reynolds
Joe E. Chavez
Don R. Hill
Frank Bohn
Lester Schnaible
Frederick Munzlinger

With Deep Sympathy and Regret,
We List These Names

PC SUPPORT GROUP MEETINGS

Support Meetings are usually held on the first and third Saturday of each month at 12:30 PM. We meet at the Bear Canyon Senior Center, located at 4645 Pitt NE (on Eubank go one block north from Montgomery - Right (East) on Lagrima De Oro - Left (North) on Pitt to Senior

PCSA *Lifeline*

A quarterly newsletter addressing issues of prostate cancer

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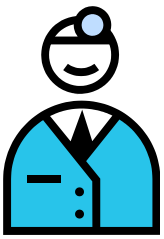
DISCLAIMERS

The PCSA of New Mexico gives medical information and support, not medical advice. Please contact your physician for all your medical concerns.



Dr. Lindberg's Report: Learn From a Patient's Story

Dr. Peter Lindberg

The patient is a 57-year old man with prostate cancer who has a Gleason score of 3+3, PSA of 8.0, no lump was felt but has a biopsy of 2/12 cores positive for cancer - one of these cores having 50% cancer. He wanted to avoid the high risk of impotence (maybe 40%) and the possibility of 14% chance of leaking urine more than 2 times a day with nerve-sparing prostatectomy. The prostate gland volume is 78cc which makes it too high up in the pelvic region for radioactive seeds. He wants "active surveillance" - watching carefully and delaying treatment until absolutely necessary. In addition to the advice of friends and his urologist, he seeks my advice of which I give the following:

1. We get a second opinion on the biopsy slides. Reports in the scientific literature confirm that up to 15 % of the cases diagnosed change if the Gleason score changes and would therefore change treatment. Dr. Bostwick, a nationally recognized pathologist in Richmond, Virginia, was asked to do the second option testing. He confirmed the Gleason 6 score.

2. The patient's PSA has doubled in less than 2 years, going from 3.5 to 8.2. Dr. Klotz at the Mayo Clinic in Toronto, Canada studied and followed almost 500 men for 7-10 years with only 5 deaths from prostate cancer, but men were not given the option of active surveillance if the doubling time was less than 3 years - Dr. Klotz felt that a more aggressive treatment was needed. Other investigators do not agree with the benefit of using PSA rising rate to select patients to watch.

3. I asked my patient to see Dr. Duke Bahn in Ventura California, an expert in using color doppler ultrasound, to visualize the extent of the cancer since some of the failures in watching the patient are due to the fact the anterior portion of the prostate gland is missed on biopsy and some of these cancers can fool us when we think they are small but are really very large. An endorectal-coil MRI of the prostate can also determine the cancer size.

4. Dr. Bahn found a large cancer tumor and rebiopsied it. Now the Gleason score is far worse at 70% 4+ 30% 3(Gleason 7). The location of the tumor was at the extreme right apex of the gland makes it most likely that a radical prostatectomy would remove all the cancer (i.e. positive margins) which then would require radiation after surgery to insure cure.

5. There is also hormone therapy with at least 6 months of Lupron + Casodex along with external beam radiation:

- ***A***. A recent Bolla trial from Europe.
- ***B.*** D'Amico's trial in the U.S.A.
- ***C***. Australian trial

Although none of the above did it with Lupron or Zoladex alone. My patient was started on Firmagon + Casodex (150mg) + Avodart (Triple Therapy® ala Dr. Bob Leibowitz).

6. Firmagon (degarelix) a new agent that turns off testosterone production by the testis. This is replacing Lupron, Elligard, and Zoladex in my practice. Firmagon acts directly against the receptors, whereas Lupron and similar agents temporarily turn on these receptors causing LH to surge and testosterone to surge! Clinical trials of Firmagon versus Lupron demonstrated fewer PSA failures and also immediate testosterone suppression to below 20 (normal value 250-800). Lupron given monthly may take up to 80 days to drive testosterone below 20 (a level produced when testicles are removed by surgery). Lupron and other similar drugs produce initial testosterone rise but also can cause a testosterone rise again at 3 and 6 months etc. This mini-surge may cause a patient to become hormone refractory at an earlier date. Dr. Morode published in 2009, using the 3 month shot. If the testosterone at 3 months had gone up to 50 at the time of the second injection, castrate-resistant prostate cancer occurred 14 months sooner than in men whose testosterone remains below 20. Dr. Perachino, in 2010, reported data showing testosterone level at 6 months after first shot predicts outcome. If the testosterone level is under 20, survival is 4 to 6 months longer than if testosterone is over 50. It may be that Casodex helps by blocking testosterone at the cellular level. Of course, Casodex (biclutamide) also blocks adrenal androgens that are converted into dihydrotestosterone which more than testosterone stimulates prostate cancer growth.

7. ATTENTION! If being treated with Lupron, Elligard, Zoladex, etc. be certain testosterone is measured with a lab test and is below 30, better yet 20.

8. Cure rate with radiation plus Firmagon + Casodex + Avodart in this high intermediate risk patient should be excellent.

Hypogonadism (Low Level Testosterone)

April 2010

Hypogonadism is a medical term for decreased functional activity of the gonads. The gonads (ovaries or testes) produce hormones (testosterone, estradiol, antimullerian hormone, progesterone, inhibin B, activin) and gametes (eggs or sperm).

Late-onset hypogonadism (LOH), Andropause or Androgen Decline in the Aging Male (ADAM), is a syndrome caused by a decline in gonadal production of testosterone in males that occurs with aging. This "male menopause" (also known by the coinage "manopause") can also cause hypogonadism. However, it occurs for certain men and not for the others.

Symptoms/effects in men with low testosterone may include:

- Poor libido (low sexual desire)
- Fatigue (medical) always tired
- Muscle loss/atrophy
- Erectile Dysfunction
- Increasing abdominal fat
- Glucose intolerance (early diabetes)
- High Cholesterol/Lipid
- Poor sleep
- Difficulty concentrating
- Memory Loss - difficulty in choosing words in language
- Shyness
- Depression
- Anxiety
- Psychological and relationship problems
- Gynecomastia
- Hot flashes
- Decrease in growth of, or loss of, beard and body hair
- Loss of bone mass (osteoporosis)
- Irritability
- Infertility
- Shrinking of the testicles
- Decrease in firmness of testicles
- Frequent urination (polyuria) without infection/ waking at night to urinate
- Achy muscles
- Night sweats
- Dry skin and/or cracking nails

Low testosterone can be identified through a simple blood test. Normal total testosterone levels range from 300-1000ng/dl. Treatment is often prescribed for total testosterone levels below 350ng/dl.

Treatment - Male hypogonadism is most often treated with testosterone replacement therapy (TRT). Commonly-used testosterone replacement therapies include transdermal (through the skin) using a patch or gel, injections, or pellets. Oral testosterone is no longer used in the U.S. because it is broken down in the liver and rendered inactive. Like many hormonal therapies, changes take place over time. It may take as long as 2-3 months at optimum level reduce the symptoms, particularly the wordfinding and cognitive dysfunction. Testosterone levels in the blood should be evaluated to ensure the increase is adequate. Levels between 500-700 ng/dl are considered adequate for young, healthy men from 20 to 40 years of age, but the lower edge of the normal range is poorly defined and single testosterone levels alone cannot be used to make the diagnosis. Modern treatment may start with 200mg intramuscular testosterone, repeated every 10-14 days. Getting a blood level of testosterone on the 13th day will give a "trough" level, assisting the physician in deciding whether the correct dose is being given.

While historically men with prostate cancer risk were warned against testosterone therapy, this may no longer be true, but check with your doctor and reports and papers by Dr. Robert Leibowitz.

Other side effects can include an elevation of the hematocrit to levels that require blood to be withdrawn (phlebotomy) to prevent complications from it being "too thick". Another is that a man may have some growth in the size of the breasts (gynecomastia), though this is relatively rare. Finally, some physicians worry that Obstructive Sleep Apnea may worsen with testosterone therapy, and should be monitored.

Testosterone and longevity

A longitudinal (18 year) study published by The Endocrine Society and funded by the National Institute on Aging and the American Heart Association stated: Men over 50 may not live as long if they have low testosterone. The study looked at death from any cause in nearly 800 men ages 50 to 91 years who were living in a southern California community and who participated in the Rancho Bernardo Study in the 1980s. At the beginning

Planning Ahead: The Living Will and Durable Power of Attorney

Johns Hopkins Health Alerts

If you have advanced prostate cancer, you may want to take the time now to make some important decisions about your future medical care, in case you are ever not able to make decisions for yourself. This Health Alert looks at two popular kinds of advance directives: a living will and a durable power of attorney for healthcare.

If you decide to provide advance directives, you may wish to have one or both types.

Advance Directive: Living Will. This advance directive explains your wishes for medical care in case you cannot communicate. A living will protects your rights to accept or refuse care, and it removes the burden of life-or-death decisions from your family members or your medical team.

In your living will, you can state that you don't want to be kept alive artificially or to receive aggressive medical treatment to save your life, but you do not wish to refuse all medical care. For example, you may want to receive only palliative, or comfort, care to alleviate pain and suffering. A living will can also include your choices regarding issues such as:

- **Do not resuscitate (DNR) orders.**
- **Artificial feeding.**
- **Artificial breathing.**
- **Donating your organs.**

Advance Directive: Durable Power of Attorney for Healthcare. Also known as a healthcare proxy, this advance directive names a person (sometimes referred to as a proxy) that you designate to make decisions regarding end-of-life care if you are unable to make them yourself.

Don't expect your proxy to read your mind - have a long discussion with this person, explaining your thinking.

Check with your doctor, the hospital social worker, or your attorney about the laws in your state.

Once you have decided which advance directives you want, fill out the forms, and sign and date them in the presence of a competent adult witness (in some states, two people must witness the signing) or a notary public. Keep copies of these advance directives at home and also include a copy in your medical records. Once signed, these documents are legal and binding.

It's not necessary to see an attorney to prepare these advance directives, but be sure that the forms you use conform to the laws in your state. Caring Connections, a program of the National Hospice and Palliative Care Organization (www.caringinfo.org; 800-658-8898), has state-by-state information on advance directives. If you change your mind about any of your wishes, be sure to update all written instructions and share the changes with your healthcare providers and family.

Using Gold Nanoparticles to Hit Cancer Where It Hurts

ScienceDaily
Georgia Institute of Technology
18 February 2010

Taking gold nanoparticles to the cancer cell and hitting them with a laser has been shown to be a promising tool in fighting cancer. Scientists at the Georgia Institute of Technology have shown that by directing gold nanoparticles into the nuclei of cancer cells, they can not only prevent them from multiplying, but can kill them where they lurk.

The research appeared as a communication in the February 10 edition of the *Journal of the American Chemical Society*.

"We've developed a system that can kill cancer cells by shining light on gold nanoparticles, but what if the cancer is in a place where we can't shine light on it? To fix that problem, we've decorated the gold with a chemical that brings it inside the nucleus of the cancer cell and stops it from dividing," said Mostafa El-Sayed, Regents professor and director of the Laser Dynamics Laboratory at Georgia Tech.

Once the cell stops dividing, apoptosis sets in and kills the cell.

The team tested their hypothesis on cells harvested from cancer of the ear, nose and throat. They decorated the cells with an arginine-glycine-aspartic acid peptide (RGD) to bring the gold nano-particles into the cytoplasm of a cancer cell but not the healthy cells and a nuclear localization signal peptide (NLS) to bring it into the nucleus.

In previous work they showed that just bringing the gold into the cytoplasm does nothing. In this current study, they found that implanting the gold into the nucleus effectively kills the cell.

"The cell starts dividing and then it collapses," said El-Sayed. "once you have a cell with two nuclei, it dies." The gold works by interfering with the cells' DNA, he added. How that works exactly is the subject of a follow-up study.

How Many Early Detected Prostate Cancers Are Needed to Prevent One Death?

UroToday
19 July 2010
Urology Department, Hospital Clinico Universitario
Zaragoza, Spain

We summarized, in the case of men older than 50 years, that 1 in 9 have PSA greater than 4ng/ml. We must biopsy 3 men if PSA is between 4-10 ng/ml to find one prostate cancer. In order to prolong the life of one patient it is necessary to do a total of 18.5 prostatectomies if the tumor is palpable and the number of prostatectomies needed in the case of non-palpable tumors is estimated five times higher. In return, there will be one death per 9791 males initially checked, one incontinence per 147 males and one impotence per 58 males. Three papers report that tumor spread may be caused by the biopsies.

We highlight the limited evidence for the data in terms of survival. It warns about the difference in results between the centers of excellence and the rest, and creates doubts about the definition of cancer when it cannot be demonstrated beyond the biopsy. The usefulness of finding and treating early prostate cancers is questionable in terms of cost-benefit, recommending the transfer of this information to patients, before deciding on one or another option. We stress the need for long-term prospective investigations to clarify which cases need to be treated and to prevent overdiagnosis. We should consider whether it is worth looking further histological findings, in increasingly younger males and with lower PSA limits.

Counting Tumor Cells in Blood Predicts Treatment Benefit in Prostate Cancer

ScienceDaily
7 July 2008

Counting the number of tumor cells circulating in the bloodstream of patients with castration-resistant prostate cancer can accurately predict how well they are responding to treatment, new results show.

At the ESMO Conference Lugano (ECLU) organized by the European Society for Medical Oncology, researchers showed that changes in the number of circulating tumor cells predicted the outcome after chemotherapy in this hard to treat cancer.

"The results add to a growing body of evidence showing that counting these cells is a valuable method for predicting survival and for monitoring treatment benefit in these patients," said Dr. David Olmos from The Royal Marsden NHS Foundation Trust in the UK.

"Our study shows that circulating tumor cell counts could provide information about how patients are responding to therapy earlier than other markers such as prostate-specific antigen (PSA) or time-to-disease progression," he said. "We have observed that patients with declining numbers of circulating tumor cells can see a change in their initial prognosis, reflecting a potential benefit from therapy."

Among the 119 patients in the study, researchers found that those with the lowest circulating cell counts had on average the longest survival.

"Cancer cells can be detected in the circulating blood by a range of methods," Dr. Olmos said. "The technique we used in our study is classified as a cytometric approach. We use an antibody that is widely expressed by epithelial cancer cells, and then use a range of cell-staining techniques to ensure it is a cancer cell."

"Because these circulating cells have broken away from either primary tumors or metastatic sites in other parts of the body, they could potentially be used to help study the specific characteristics of the cancer and perhaps personalize therapy," Dr. Olmos said.

Tumors May Respond to Extreme and Moderate Heat

ScienceDaily
12 Mar 2010

Aided by ultrasound guidance, treating tumors with extreme heat or moderate heat may provide a possible therapeutic option, according to early research presented at the second AACR Dead Sea International Conference on Advances in Cancer Research: From the Laboratory to the Clinic, held March 7-10, 2010.

"Low temperature controlled hyperthermia and high temperature treatments are beneficial in curing both malignant and benign tumors using minimally invasive and noninvasive ultrasound techniques," said Osama M. Al-Bataineh, Ph.D., an assistant professor in biomedical engineering at the Hashemite University in Jordan.

Hyperthermia has previously been shown to increase radiation damage to cancerous tissue and prevent subsequent tissue repair. It has further been shown to enhance chemotherapy and immunotherapy treatments by changing the microcirculation and blood vessel permeability properties of a tumor.

(Continued on page 7)

(Continued from page 4)

Hypogonadism

of the study, almost one-third of these men had suboptimal blood testosterone levels for men their age. The men with low testosterone levels had a 33 percent greater risk of death during the next 18 years than the men with higher testosterone. This difference was not explained by smoking, alcohol intake, and level of physical activity or by pre-existing diseases such as diabetes or heart disease.

The new study is the second report linking the deficiency of this sex hormone with increased death from all causes over time, said study author Gail Laughlin, PhD.

(Continued from page 6)

...Tumors and Heat

Al-Bataineh and colleagues performed the following laboratory experiments.

Using magnetic resonance imaging (MRI) guidance, they were able to maintain desired temperature levels of 43 degrees Celsius for 30 minutes, which is considered the optimal dose to cause the required biological effect for hyperthermia treatment.

In a related experiment, high temperature (greater than 50 degrees Celsius) for between one to two minutes caused permanent tissue damage to the prostate tumor. High temperature treatment appeared to induce necrosis, or cell death.

Al-Bataineh said both extreme and moderate heat appear to have a clear effect on the tumor's cellular structure, but further research would need to be done before any studies are conducted in humans.

Vaccine Approach Extends Life of Metastatic Prostate Cancer Patients

25 January 2010
Dana-Farber Cancer Institute

In a newly published clinical trial, patients with metastatic prostate cancer who received a vaccine of harmless poxviruses engineered to spur an immune system attack on prostate tumor cells lived substantially longer than patients who received a placebo vaccine, report researchers at Dana-Farber Cancer Institute and affiliated organizations.

The randomized phase II study involved the PROSTVAC-VF vaccine, a combination of two weakened poxviruses that have been genetically programmed to produce slightly irregular versions of prostate specific antigen (PSA) - a protein on the surface of prostate cells that is abnormal in many prostate cancers - and three costimulatory molecules that spur the immune system to a more vigorous attack on tumor cells.

The double-blinded trial included 125 patients with metastatic prostate cancer who did not respond to standard, hormone-lowering therapy. Eighty-two of the participants received the vaccine, produced by BN Immuno Therapeutics, Inc., of Mountain View, Cal., and 40 received a placebo.

At the three-year point after the study, 30 percent of the PROSTVAC-VF patients were alive, versus 17 percent of the control group. The median survival of the vaccine group was 24.5 months, compared to 16 months for the control group, and 8.5-month increase.

Patients tolerated the vaccine well; only a small number experienced side effects such as fatigue, fevers, and nausea.

"Although this study is relatively small, it offers encouraging evidence of a clinically meaningful benefit from this vaccine approach." says the principal investigator of Dana-Farber, who helped design the trial. Investigators are planning a phase III trial that will enroll about 600 patients to further evaluate the vaccine's effectiveness.

Coffee Consumption and Risk of Prostate Cancer: A Meta-Analysis of Epidemiological Studies

21 July 2010
National Cancer Center, Goyang, Republic of Korea

We searched PubMed, EMBASE, and the bibliographies of relevant articles in August 2009. Two evaluators independently reviewed and selected articles based on predetermined selection criteria.

Twelve epidemiological studies (eight case-control studies and four cohort studies) were included in the final analysis. In a meta-analysis of all included studies, when compared with the lowest level of coffee consumption, the overall relative risk (RR) of pc for the highest level of coffee consumption was 1.16 (95% confidence interval [C1] 1.01-1.33). In subgroup meta-analyses by study design, there was a significant positive (harmful) association between coffee consumption and prostate cancer risk in seven case-control studies using both crude and adjusted data (RR 1.20, 95% CI 1.02-1.40; and RR1.21, 95% CI 1.03-1.43), respectively), whereas there was no significant association in four cohort studies using crude or adjusted data .

Given that a cohort study gives a higher level of evidence than a case-control study, there is no evidence to support a harmful effect of coffee consumption on prostate cancer risk. Further prospective cohort studies are required.

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Chairman's Corner

A PC survivor and fellow Loma Linda Proton Therapy alumnus called recently and suggested we mention what is currently available for men wanting to learn more about proton therapy and where it is available. Before I could finish asking Joe Nai if we had updated info on proton facilities, he handed me a sheet just prepared by Kristie that listed current proton centers in the U.S.:

- ~ James M. Slater Proton Therapy Center, Loma Linda, CA (877) 558-6248
- ~ Francis H. Burr Proton Therapy Center, Massachusetts General Hospital, Boston, MA (617) 726-2000
- ~ Midwest Proton Radiotherapy Institute at Indiana University, Bloomington, IN (866) 487-6774
- ~ MD Anderson Cancer Center, Houston, TX (800) 392-1611
- ~ University of Florida Proton Therapy Institute, Jacksonville, FL (877) 686-6009
- ~ ProCure Proton Therapy Center, 5901 W. Memorial Rd, Oklahoma City, OK 73142, (888) 204-9863

I used Google to access each of the facilities and learned that there is extensive information on the web for each of them. For anyone who wants to learn more about proton therapy I suggest you also Google each of the above facilities and read the posted information. Our Buddy List has a number of men who opted for proton radiation and will share their experiences with you. Speaking of the Buddy List, I want to ask any of our readers who have been to one of the facilities other than Loma Linda to please sign up as a "Buddy" and share their experiences with us old-timers.

There are proton beam facilities in a number of other countries, e.g. South Africa, Japan, Korea, Canada and possibly more. It appears that not all of the proton facilities are set up for cancer therapy. Beware if you are searching outside of the States for a proton treatment facility.

Good Health to All,

Robert Wood, Chairman, PCSANM