

# **KELOWNA PROSTATE CANCER SUPPORT & AWARENESS GROUP NEWSLETTER**



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At our May meeting the question was asked what does Metabolic Cancer mean? This is a question that is on the form when applying for extended medical insurance when traveling, unfortunately we did not get an answer to that question; however, doing some research on the weekend I discovered that Metabolic Syndrome was defined as the fulfillment of 3 of the following 5 criteria: (1) fasting plasma glucose, 110mg/dl, (2) serum triglyceride level of 150 mg/dl or greater, (3) serum HDL < 40 mg/dl, (4) waist circumference > 40in., or (5) blood pressure of 130/85 or greater. Patients taking antihypertensives or lipid lowering drugs were considered positive for each criterion.

Researchers from Johns Hopkins performed an assessment on 20 men with prostate cancer treated with androgen deprivation for 12 months or longer, 18 aged age-matched men with PSA recurrence after prostatectomy or radiation (who had not been treated with ADT), and 20 age-matched men without cancer and with normal serum PSA values.

The Metabolic Syndrome was present in 55% of men undergoing ADT, compared with 20% on non-ADT prostate cancer patients, and 20% of controls. In particular, patients on ADT exhibited a higher risk for abdominal obesity (waist >40 in), fasting glucose >100 and a trend for higher triglycerides. There was no difference in the prevalence of hypertension or hypercholesterolemia between groups.

## Prostate Cancer Vaccine Not Approved by FDA Panel –

The following information was obtained from the Internet and *vaccinex.com* and *DrugResearcher.com*

The U.S. Food and Drug Administration (FDA) has asked Dendreon for more efficacy data for its Biologic License Application (BLA) for Provenge (sipuleucel-T). The so-called Active Cellular Immunotherapy (ACI) is designed to switch a patient's immune system back on, allowing it to destroy cancer tumor cells.

Even the approval of its independent advisory panel was not enough for the FDA to green light the promising new cancer vaccine Provenge. The FDA has indefinitely delayed approval while waiting for additional clinical information from Dendreon. This delay by the FDA could slow the release of this drug by as much as three years.

Mitch Gold, Dendreon's CEO expressed his disappointment on hearing the FDA news, "Given our strong belief in the survival benefit and safety profile of Provenge, coupled with the positive outcome of the Advisory Committee meeting, we are disappointed that this decision will cause a delay in the availability of Provenge for patients who suffer from advanced prostate cancer."

The FDA's Cellular Tissue and Gene Advisory Committee had already voted 13-4 in favour of approval.

Provenge is different from other vaccines that are only effective if administered prior to contracting the disease, as it can be used even in advanced stages of prostate cancer. If it had been approved it would have been the first cancer vaccine of its kind to win approval from the FDA.

## Researchers find Genetic Links To Prostate Cancer –

The following information was obtained from *MedlinePlus* a service of the National Institutes of Health in the U.S. and also came from *Reuters Health*.

**W**ASHINGTON – Scientists have identified several risk factors for prostate cancer, shedding new light on the cause of a leading worldwide cancer killer among men that hits the U.S. blacks especially hard.

"The importance of it is that this is the first real evidence of the genetic basis of prostate cancer," said *Dr. Brian Henderson*, Dean of the Keck School of medicine at the University of Southern California and one of the researchers of the study.

"It gives us the first real insight we've had into the cause of this disease and how we might do something about it," Henderson added.

The researchers described seven genetic risk factors – DNA sequences present in some people but not others – bunched in a relatively small region of one of the human chromosomes, chromosome 8, that reliably predicted

one's probability of developing prostate cancer.

Five were newly discovered and two confirmed earlier findings.

Pinpointing these genetic risk factors could be an important step toward helping explain the higher prevalence in U.S. blacks compared to whites.

Black men are twice as likely to die from the disease, and nearly all of the risk factors were seen most frequently in blacks involved in the study.

The findings also could lead to ways to sort out who is at highest risk by finding if a man has one of the genetic risk factors, and for early diagnosis of the disease, the researcher said.

Prostate cancer death rates are falling in part because screening is allowing it to be found earlier when it is more treatable.

"We do believe there is a genetic basis. Of course, it's not all genetic. There are also going to be other lifestyle and environmental factors as well," said *Christopher Haiman*, a USC preventive medicine professor.

About two-thirds of cases are men over the age of 65. The American Cancer Society said men who eat a lot of red meat or high-fat dairy products appear to have higher risk.

The three teams of researchers – one led by scientists at Harvard University and USC, one by Icelandic Company deCODE genetics Inc. and one by the

National Cancer Institute, part of the U.S. National Institutes of Health – presented their findings in the journal *Nature Genetics*.

The researchers examined genetic information on thousands of men with and without prostate cancer. Harvard geneticist *David Reich* said that until last year, when deCODE published narrower earlier findings, there had been no confirmed genetic risk factors for prostate cancer.

"I think it's likely there are other genetic risk factors either in this section of the genome or elsewhere that we and others have not yet identified," Reich said. "It's only the beginning of the story," Reich added.

Haiman said the researchers do not yet fully understand the biological mechanism through which the genetic variants influence risk for prostate cancer.

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## WITT'S WIT (ON THE LIGHTER SIDE) -

The following came from the *Medical Blooper™* Calendar -

In my first year medical school class, the doc was lecturing on the digital rectal exam. He emphasized that "you must make sure to insert your finger all the way in for accuracy; we don't want a half-assed effort here."

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The cardiologist performing the coronary angiogram needed the patient absolutely still, and in a thick eastern European accent said, "Hold your breaths." Doing as the doctor commanded, the woman reached up and cupped each of her breasts. Again the doctor told her to lay still and hold her breaths, and again she grabbed her breasts. For the third attempt, the physician determined that "don't breathe" was better understood.

### Protein Could Boost Prostate Cancer Screening Accuracy -

The following information was obtained from *Cancer facts.com*, as well as from *ABC news* –

**R**esearchers say that a newly discovered blood protein could change the way men are screened for prostate cancer with a simple-to-use blood test.

Led by *Dr. Robert H. Getzenberg*, professor of Urology and director of research at the *James Buchanan Brady Urological Institute* at the *Johns Hopkins University School of Medicine*, the study detected and unprecedented 94 percent of men with prostate cancer and correctly identified 97 percent of men who don't have the disease, a far greater accuracy rate for prostate cancer than the current PSA test.

The protein, called *Early Prostate Cancer Antigen or EPCA-2*

is exclusively licensed to *Seattle-based Biotechnology Company Onconome, Inc.*, led by CEO and co-founder *Ray Cairncross*.

"The results from the Johns Hopkins University research study demonstrate that the ProstaMark® EPCA-2 test is highly specific and sensitive to prostate cancer and could greatly reduce the number of unnecessary prostate biopsies," Cairncross said in a press release.

For the past 25 years, prostate specific antigen (PSA) has been the standard in the effort to detect prostate cancer; however, it is not highly specific or sensitive. For example, 80 percent of patients with elevated PSA levels do not have prostate cancer and 15 percent of patients with normal PSA levels have prostate cancer. Nevertheless, nearly 1.7 million prostate biopsies are performed each year based primarily on results from PSA testing and an estimated 25 million men have had at least one negative biopsy (i.e. no cancer found).

Not only was the EPCA-2 test negative in 97 percent of men who do not have prostate cancer and positive in 94 percent of men with prostate cancer, it also showed that EPCA-2 levels are highest in patients with non-organ confined prostate cancer, which is important because cancer that has spread outside of the prostate is much more deadly.

The company is also working with Johns Hopkins University on an early detection test for colon cancer,

and early results indicate that the performance characteristics of the colon cancer test are similar to those achieved in the development of the prostate cancer test.

Onconome will also use its novel, proteomic technologies to assist pharmaceutical companies in developing cancer therapies and to select clinical trial candidates. The company also will collaborate with in-vivo imaging and targeted therapeutics companies to improve treatment.

The next logical question is whether this new test is really as good as it seems. And if it really is a major advance, you might also be asking how soon the test will be made available.

The answer to the first question is we hope it is. The answer to the second question is we don't know.

Frequently, when these types of papers appear in the literature, there are great claims made that the new test is a major advance and many folks get very excited about them.

To the credit of authors of the current report, they have made it clear in their article that this is simply a preliminary report of a newly discovered protein-based test. They commented that the test itself was "tested" on highly selected patients and was not evaluated in a typical setting where the doctor is actually screening a man for prostate cancer.

If the new test turns out to be more accurate than the PSA, then it will be a major advance. But we must always bear in mind that it may not show value in the subsequent "real life" evaluation.

### **Other Promising Tests on the Way**

Trying to find cancer through a blood test has been an area of research interest for many years. We have actually had other tests besides the PSA test that have been used in monitoring cancer patients for some time.

So the EPCA test reported here is new, but it is not alone. Many researchers seek protein markers in the blood that may lead us to screen and diagnose cancer at the earliest possible moment.

Experts have said that within the next decade, we will have methods available that will incorporate nanotechnology and will allow us to take a drop of blood, put it on a chip, send it to the lab, and diagnose disease long before a doctor could find evidence of that disease by more standard clinical tests.

Other experts have reported research where they can monitor levels of a cancer-related protein called VEGF in rats, and pre treat those animals before a cancer tumor can be clinically detected.

But we can't diminish the value of the PSA test in apparently helping to reduce deaths from prostate cancer, and we still need to

prove that the new test is actually better than the older PSA test.

## Is Prostate Cancer in Your DNA? – By Niki Hampton

The following was obtained from Associated Content

According to the American Cancer Society's website, "there is a set of common variations in human DNA that signal a higher risk for prostate cancer in men who carry them".

The findings of three separate studies were published in the online edition of *Nature Genetics*. One study was done by researchers from the *Keck School of Medicine* at the *University of Southern California* in Los Angeles and the *Harvard Medical School* in Boston, a second by a research partnership between the *US National Cancer Institute* and the *American Cancer Society*, and the third study was done by a group of scientists at *deCODE Genetics Inc.*, an Icelandic biotech company.

The largest study was completed by the USC/Harvard team, with a combined total of 26 researchers and the genetic tests of 7,500 men from all races and lifestyles. They found that the DNA variations "may be linked to as many as 68% of prostate cancer cases in African Americans, 60% in Japanese Americans, 46% in Latinos, 45% in native Hawaiians and 32% in whites", as stated in an article by ACS.

Now what exactly is the variation that we are talking about? The DNA variations that the researchers are

finding are on chromosome 8, in a string of human DNA called the 8q24 region of some men, 8 variants to be exact.

Each variant was able to help predict the risk of prostate cancer with the strength of the prediction varying widely between 11% and 68%, depending on race and other individual factors. Six of the variants were newly discovered, while the other two confirmed earlier studies for this link between DNA and prostate cancer. In fact, deCODE Genetics has been looking at chromosome 8 for prostate cancer markers for years.

So, what does this discovery mean for the future of prostate cancer? Well, deCODE Genetics is working on a genetic screening test for prostate cancer that they expect to release in early 2008. The findings of these studies could also offer valuable information into understanding the disease, which could turn speed up the discovery of new treatments.

"Building on this finding we may be able to identify men at highest risk for prostate cancer, diagnose the disease earlier, and hopefully prevent it all together." Says John Niederhuber, M.D. Director of the National Cancer institute.

## Study Implicates Protein as Trigger of Advanced Prostate Cancer –

The following information was obtained off the Internet and originated with the *University of North Carolina Chapel Hill*.

Scientists with the *Lineberger Comprehensive Cancer Center at the University of*

North Carolina at Chapel Hill have for the first time implicated a growth-promoting cellular protein as one trigger of the inevitable recurrence of advanced prostate cancer in men who are undergoing drug treatment to shut down their sex hormones, or androgens.

The new research may help solve a mystery: why does prostate cancer recur in men treated to get rid of circulating androgens such as testosterone.

Moreover, because chemotherapy after recurrence extends life by only a few months, the new research, “raises the exciting possibility that we can develop a specific drug against this,” said senior study co-author *Dr. Young Whang, Associate Professor of Medicine at UNC –Chapel Hill.*

The study appeared online May 7, 2007, in the *Proceedings of the National Academy of Sciences*. It also appeared in the print version of the publication on May 15.

The protein, named Ack1, is a member of the tyrosine kinase gene family. Ack1 exerts its effect on the reemergence of the cancer by biochemically altering the now inactive androgen receptor in the nucleus of prostate cancer cells, according to a series of experiments conducted by lead author *Dr. Nupam P. Mahajan, Assistant Professor of Pharmacology*, and other Lineberger scientists. The kinase activates the receptor via phosphorylation – by adding a phosphate group to this protein molecule.

“This biochemical action converts a prostate cell that would need an androgen signal for its growth to one that is independent of the androgen signal,” said senior study co-author *Dr. Shelton Earp, Director of the Cancer Center, Lineberger Professor of Cancer Research and Professor Pharmacology and Medicine.*

Earp noted that until now scientists haven’t completely understood what that conversion means. “Our experiments show that this heretofore understudied protein Ack1 may be crucial in at least a portion of these tumor recurrences. Nupam’s study nails down the mechanism by which that conversion happens.

Among experiments were those that involved mice that were unable to produce androgen. The animals were implanted with human prostate tumor cells containing an activated form of Ack1. “We found that when prostate cancer tumor cells express activated Ack1, cancer grew aggressively in these mice,” Mahajan said. “This mimics what happens in patients undergoing hormone therapy.”

The researchers noted that approximately one-third of androgen-independent human prostate tumors contain an activated Ack1 molecule. “The study is telling us this is a target for therapy and perhaps a very important target for therapy,” Earp said.

The Kelowna Prostate Cancer Support and Awareness Group does not recommend treatment modalities; however, all information is fully shared and confidential. The information contained in this newsletter is not intended to replace the services of your health care professionals. You are advised to consult with your health professional regarding matters of your personal health.

**UP COMING MEETING DATES-**

**July 14<sup>th</sup> – August 11<sup>th</sup> – September 8<sup>th</sup> – October 13<sup>th</sup> – November 10<sup>th</sup>**

**Our regular monthly meetings are held on the second Saturday of each month in the meeting rooms of the Kelowna Health Centre – 1340 Ellis Street. Our meetings begin at 9:00 A.M. and are generally over by 11:00 A.M.**

**I would like to thank Sanofi Aventis manufacturer of Eligard®, Taxotere® and Xatral® for their support in producing this newsletter.**

Thank you for helping us “Win the War Against Prostate Cancer.”

**The Okanagan Prostate Resource Centre operates on donations. We would like to thank the Companies, Service Clubs, Organizations and Individuals that have made donations in order to help us operate this very valuable center. If you wish to make a donation please feel free to fill out the form below. Your support is gratefully appreciated. Our official Registered Charitable Number is - 89269 1718 RR0001**

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