Prostate Cancer Prevention Newsletter

Improving Health and Reducing Prostate Cancer Risk for Men in their 40s, 50s, and Older!

Prevent Prostate Cancer by 2015

Volume 2, Issue 2
June 2006

APCaP
Alliance for Prostate Cancer Prevention

High Cholesterol Linked to Prostate Cancer

There is growing evidence linking high cholesterol to prostate cancer. Experts say cholesterol may also promote the growth of other tumors.

Authors of the newly published research study in the April 12, 2006 online edition of the *Annals of Oncology* claim their findings are the first to find a direct link between high cholesterol and prostate cancer in humans. Christina Bosetti, PhD and her colleagues interviewed two groups of Italian men about their medical history and compared their findings about their health. The first group included 1,294 Italian men with prostate cancer. The second group was comprised of 1,451 Italian men without prostate cancer, but who were receiving medical treatments for other reasons.

The men with prostate cancer were approximately 50 percent more likely to report having had high cholesterol than men without the disease. The association was strongest for men with high cholesterol identified before age 50, and for men age 65 and over. No association was seen between prostate cancer and 10 other self-reported medical conditions, including diabetes, obesity, and high blood pressure.

Cholesterol is used by the body to make androgens and other steroid hormones. Male sex hormones, known as androgens, stimulate the growth of prostate cancer. Researchers of the Italian study say the relationship between androgens and cholesterol may explain how high cholesterol promotes prostate cancer growth. Other researchers have noted that cholesterol may promote prostate cancer through other mechanisms in the body outside of sex hormones. Additional studies are required to understand the association between cholesterol and prostate cancer.

Strategies to Lower Cholesterol

High cholesterol can be reduced through dietary and lifestyle changes. High levels of blood fats are caused by high-fat diets and often result in high cholesterol. Previous research studies indicate an association between high-fat diets and prostate cancer.

Research published in the April 2006 *Journal of Clinical Investigation* from animal studies at Children's Hospital in Boston demonstrated that high levels of fats in the blood fueled prostate cancer growth in mice. When the mice in this study ate a high-fat diet, cholesterol accumulated in the outer membranes of their tumor cells. The build-up of cholesterol then activated a chemical process considered central to prostate cancer growth. However, although this research in mice found that cholesterol in the bloodstream promoted the growth of existing prostate cancers, it did not initiate the tumors.

Along with lowering fats in the diet, foods that help reduce cholesterol include nuts, cold water fish, oatmeal and oat bran, soy protein, and plant sterols. Plant sterols are plant-based compounds that can compete with dietary cholesterol that would otherwise be absorbed by the intestines, which results in lower blood cholesterol levels. They occur naturally in small amounts in many grains, vegetables, fruits, legumes, nuts, and seeds. Other lifestyle modifications that may lower cholesterol include moderate to intensive exercise several times each week, weight loss, and stress reduction. Some research also indicates that statins, a type of drug designed to lower cholesterol, limits the amount of cholesterol the body can make.

There are many strategies that may help reduce cholesterol in the body, and perhaps in the process reduce the risk of health challenges such as prostate cancer.

www.apcap.org
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APCaP seeks the collaboration of public/private business leaders, legislators, health providers/ administrators, researchers, federal/state/local health officials, and prostate cancer advocates into coordinated cohesive forums to enhance and promote prostate cancer awareness, education, research, and primary/secondary prevention programs. This diversified stakeholder group seeks to reach out to men in their 40's and 50's, and their wives or partners, to educate them about the basics of prostate cancer and what can aid in its prevention. APCAP accomplishes this through physician lectures, a newsletter, and website. APCaP also evaluates and implements ambitious plans that are designed to eliminate prostate cancer as a health threat in the United States by 2015.

Why APCaP?

Men in their 40s, 50s, and older should take the time to learn about prostate cancer. APCaP's goal is to educate young men and their families about this disease, and especially to inform those who are currently healthy. We want young men and their families to know the basics of prostate cancer, potential risk factors, symptoms, screening recommendations, as well as to have some understanding about the side effects and treatments of the disease.

Knowledge is power. Men and their families who become educated about prostate cancer will learn how to take better care of themselves and monitor their health. Informed consumers know that men need to have annual prostate cancer screening tests by age 50, and that men with a prostate cancer family history and/or those of African-American descent need to begin annual screening by age 40.

Some of APCaP's Board members are prostate cancer survivors. All of us wish that we'd had some level of awareness about prostate cancer before being diagnosed with the disease. We want to help educate the American public so that at least some men and their families who are affected by prostate cancer will be more informed than we were when first diagnosed.

One in six men will be diagnosed with prostate cancer in their lifetime. We don't say this to scare you. Those numbers merely reflect the reality that everyone should be mindful about their health. While no one key exists to prevent prostate cancer, research has provided some clues that might help some escape the disease and perhaps provide a better quality of life.

Since its inception in January of 2005, the quarterly APCaP Newsletter has shared references to reliable resources about prostate cancer, profiled current prostate cancer prevention research, and interviewed leading doctors and other health care professionals in the field. We have emphasized that research suggests an improved diet, more frequent exercise, reduced stress, a cleaner environment, and other more balanced lifestyle factors may reduce the risk of prostate cancer.

We hope you find our newsletter informative. Please send us your suggestions about newsletter topics to info@apcap.org or to our mailing address listed on the back cover. We want to know what you want to learn. We also invite you to read our previous newsletters at www.apcap.org/newsletter.

To Treat or Not to Treat Early-Stage Prostate Cancer

Recent research raises important issues about the best treatment approaches for men diagnosed with early-stage prostate cancer. Categories of treatment strategies include **watchful waiting, active surveillance, selective delayed intervention,** and **aggressive therapy**.

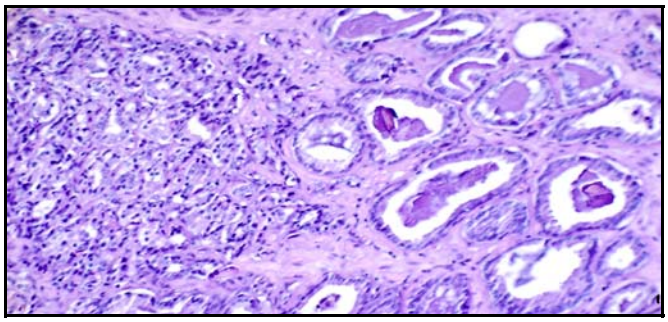
A few simple definitions will help men and their families understand these varied treatment strategies for early-stage prostate cancer. **Watchful waiting** involves observation and treatment of symptoms only, and can result in the undertreatment of patients with aggressive disease. **Active surveillance** involves periodic prostate-specific antigen (PSA) testing and prostate biopsies. If tests indicate cancer growth, **selective delayed interventions** can be provided such as surgery, radiation therapy, chemotherapy, and/or hormone therapy. **Aggressive therapy**, which includes a combination of those treatment approaches, can sometimes result in overtreatment.

Active Surveillance?

A new study demonstrates that the strategy of active surveillance with selective delayed intervention may be an effective treatment strategy for some men with low-risk, early-stage prostate cancer. Active surveillance with selective delayed intervention is a compromise between aggressive therapy and watchful waiting.

In this phase II study, which began in 1995, researchers analyzed survival among 423 men with early-stage prostate cancer with an average age of 67. Most of these men had disease that was considered low risk as determined by the extent of cancer spread and the rate of PSA rise. After 10 years of follow-up, 85 percent of the men were still alive. Of the 15 percent who died, only two men died of prostate cancer, which became aggressive within two years of diagnosis. Thirty-five percent of the men ultimately chose treatment after experiencing a rapid rise in PSA or an increase in tumor size. The men are continuing to be followed.

"We anticipate that about 30 percent of men with low-risk prostate cancer who follow this approach (active surveillance) will eventually be treated, and the remainder will have stable disease, requiring no treatment, for the rest of their lives," said Laurence



The image above shows prostate cancer. On the right is a somewhat normal Gleason Value of 3 (out of 5) with moderately differentiated cancer. On the left is less normal tissue with a Gleason Value of 4 (out of 5) that is highly undifferentiated. The Gleason score is the sum of the two worst areas of the histological slide.

Klotz, MD, Professor of Surgery at the University of Toronto and the study's senior author. He noted that an upcoming study will compare survival between men who continue observation with selective delayed intervention with those who undergo more aggressive treatment for prostate cancer.

Aggressive Therapy?

Another recent study suggests that older men with early-stage prostate cancer live longer with treatment compared to watchful waiting. An analysis of nearly 50,000 older men with early-stage prostate cancer showed that those who underwent treatment had a 30 percent lower risk of death than those who chose watchful waiting with observation and PSA monitoring.

"Our findings show that despite the slow-growing nature of low-and intermediate-risk prostate cancer, treating patients may help them live longer, even among older men," said Yu-Ning Wong, MD, Assistant Member of Population Science and Medical Science at the Fox Chase Cancer Center and lead author of the study.

In this study, researchers analyzed survival data from the Surveillance, Epidemiology and End Results (SEER) Medicare database for 48,606 men ages 65 to 80 diagnosed with localized prostate cancer between 1991 and 2003. Researchers compared overall survival among patients who underwent treatment with radiation therapy or surgery with those who chose watchful waiting in the first six months after diagnosis.

(Continued on page 4)

To Treat or Not to Treat Early Stage Prostate Cancer (Continued from page 3)

Treat Some, Not Others

These study results add to the long-running debate in the prostate cancer community about the most appropriate treatment strategy for early-stage prostate cancer. Many factors influence the best treatment strategy for each individual with this diagnosis, including available scientific evidence, practitioner bias, as well as the age of the patient, their overall health, finances, desired quality of life, and personal preference. For example, watchful waiting is an approach that is often recommended for older patients who are less likely to die of prostate cancer than of other causes, but some older men may prefer treatments aimed at improving longevity.

Future research will inevitably add evidence to whether or not men diagnosed with early-stage prostate cancer should engage in watchful waiting, active surveillance, selective delayed intervention, or aggressive therapy. Since a number of treatment approaches exist, each person's strategy should be decided through a thorough review of available scientific evidence in collaboration with a health care team.

These studies were reported at the American Society for Clinical Oncology's Prostate Cancer Symposium in February of 2006. More information is available at www.asco.org.

The American Society of Clinical Oncology (ASCO) hosts a consumer-focused website called People Living with Cancer that provides oncologist-vetted cancer information to help patients and families make informed health-care decisions. This site has an entire section devoted to prostate cancer.

Their prostate cancer content features an overview, medical illustrations, risk factors and prevention, symptoms, diagnosis, staging with illustrations, treatment, side effects of cancer and cancer treatment, after treatment, questions to ask the doctor, current research, patient information resources, and clinical trials resources. The prostate cancer page also profiles recent prostate cancer research in their "What's New" section, as well as offering other patient resources, information and support, and cancer news.

ASCO is the world's leading professional organization representing physicians of all oncology subspecialties who care for people with cancer. ASCO's People Living with Cancer website is located at www.plwc.org. The prostate cancer section can be found by clicking on "Cancer Type" and then "Prostate Cancer."

Hot Pepper Kills Prostate Cancer Cells

Capsaicin, which makes peppers hot, caused prostate cancer cells to kill themselves, according to recent study results in the March 2006 *Cancer Research*.

Capsaicin led 80 percent of human prostate cancer cells growing in mice to die through a process known as apoptosis, or cell suicide. In addition, prostate cancer tumors treated with capsaicin were about one-fifth the size of tumors in untreated mice.

Dr. Soren Lehmann of the Cedars-Sinai Medical Center and the University of California Los Angeles School of Medicine estimated that the mice ate the human equivalent of 400 milligrams of capsaicin three times a week, the amount found in three to eight fresh habanero peppers.

Researchers cited the next step as a trial to see if capsaicin works in people with prostate cancer.

Prevent Prostate Cancer by 2015

New Virus Discovered in Some Prostate Cancer Patients

Researchers around the world are striving to uncover potential causes of cancer. Recently reported research has identified a new virus (called XMRV) that was found 30 times more frequently in men with a rare form of prostate cancer with a particular genetic error compared to men with prostate cancer without the error.

Scientists from the Cleveland Clinic and the University of California, San Francisco who collaborated on the research do not know whether the virus actually causes prostate cancer, or any other conditions. However, they consider their discovery important since viruses are associated with other types of cancer and separate scientific evidence suggests prostate cancer might result from chronic inflammation caused by a bacteria or a virus.

Researchers are seeking to discover the sequence in the chain of events that lead to the development of cancer. About 10 years ago in Cleveland, Dr. Robert H. Silverman discovered a protein (called RNAsel) present in all people that helps fight viruses. Men who have damage in this protein are at greater risk for prostate cancer. The increased risk for prostate cancer may occur when the gene that produces the protein RNaseL is mutated (or damaged) and stops functioning normally. Because of the gene's role in fighting viruses, some scientists have speculated that a virus could be involved in some prostate cancer.

After developing technology that screens human tissue of nearly 1,000 viruses, scientists in San Francisco tested tissue samples from 86 prostate cancer patients. They found the XMRV virus in 45 percent of the 20 men who had two mutated copies of the gene that produces the RNAsel protein, compared with only 1.5 percent of the 66 men who had one copy or no copies of this mutated gene.

Dr. Don Ganem, one of the researchers in San Francisco, said the findings raise many questions, including why laboratory tests show that XMRV is absent from the cancerous prostate cells, yet present in surrounding tissue known as stroma. In addition, more insight is needed into why only 1 percent of the stroma cells are infected with the virus. Dr. Ganem indicates that small percentage suggests that the virus may cause infection elsewhere in the body.

Dr. Eric A. Klein of Cleveland and a co-author on the research report referenced data from other studies indicating that some prostate cancers could be caused by infection. "The hypothesis is that infection leads to chronic inflammation of the prostate, which ultimately leads to cancer," he explained. If researchers someday prove that a virus causes at least some prostate cancers, the finding would raise the possibility of developing cancer treatments targeted to the virus and the surrounding physical environment.

Before any treatments are developed as a result of these research findings, more information is needed about what percentage of men have evidence of the virus and whether it causes any prostate cancers or other disease. Future research will also evaluate any associations between the virus and a patient's sexual activity, as well as personal and family medical history.

This study was reported at the American Society for Clinical Oncology's Prostate Cancer Symposium in February of 2006. More information is available at www.asco.org.

"The cracks can be fixed--it's your cholesterol level that worries me."

New Findings about Prostate Cancer Risk from the Fred Hutchinson Cancer Research Center in Seattle

Reported at the American Society of Clinical Oncology's Prostate Cancer Symposium

Vasectomies Don't Increase Prostate Cancer Risk

Researchers at the Fred Hutchinson Cancer Research Center in Seattle recently reported that vasectomy, an operation to cut or tie off the two tubes that carry sperm out of the testicles, does not increase a man's risk of prostate cancer, contrary to several earlier studies that had suggested a link.

The vasectomy findings come from the largest study ever designed to look at prostate cancer risk and vasectomy in men under age 65. "This is an important public-health question, and we believe that our results will be reassuring to physicians performing the procedure and to couples selecting vasectomy for contraception," said lead researcher Dr. Janet Stanford, head of the Prostate Cancer Research Program in the Hutchinson Center's Public Health Sciences Division. Vasectomy costs less than tubal ligation, the surgical-contraceptive counterpart for women, and is associated with fewer side effects.

The Hutchinson Center's five-year study of 1,456 men ages 40 to 64 compared 753 men who had prostate cancer to 703 who did not. The men answered questions regarding medical history, screening for prostate cancer, and a number of lifestyle choices, including diet and the use of vitamin and mineral supplements. The research team adjusted for variables such as age, race, and family history of prostate cancer.

Some Vitamins Reduce Prostate Cancer Risk

These findings from the vasectomy study also suggest that dietary supplementation with zinc, vitamin C, or vitamin E may significantly reduce the risk of the disease. The researchers inquired about the frequency and duration of dietary-supplement use, specifically regarding four types of multivitamins along with vitamins A, C and E, and calcium, iron, and zinc.

Analysis of the supplement data indicates that fewer than one-third of the men in both groups took daily multivitamins, while 21 percent took vitamin C and 14 percent took vitamin E. Only 5 percent took daily doses of zinc, calcium, or vitamin A.

Men who took daily doses of vitamins C or vitamin E had a 23 percent lower risk of prostate cancer, while those who took zinc daily decreased their risk by 45 percent.

The results for the zinc supplements are consistent with earlier clinical studies that find much lower concentrations of zinc in cancerous prostate tissue compared to healthy prostate tissue. Zinc may play some role in regulating healthy prostate growth. The results for vitamin E on cancer risk were somewhat smaller than the protective effect found in one previous study.

The investigators conveyed that the study adds weight to the idea that some supplemental vitamins and minerals may influence prostate cancer risk. The research team suggests that further studies on dietary supplements and prostate cancer risk should include a large population-based survey that incorporates blood-sample collection to better examine exposures to differing combinations and doses of supplements.

Did You Know?

- 1 in 6 men will be affected by prostate cancer
- Only 50% of men over 50 have prostate cancer screening each year
- When detected and treated in its early stages, the five year survival rate for prostate cancer is 100%
- African American men have twice the incidence and mortality rate compared to Caucasians

Omega 3 versus Omega 6: Know the Difference

Eating oily fish or taking omega-3 fatty acids supplements may help prevent the spread of aggressive prostate cancer to other parts of the body, and high intake of omega-6 fatty acids may do the opposite, according to new laboratory study results published in the March 2006 *British Journal of Cancer*.

Eating omega-3 fatty acids is especially important because the human body cannot make them on their own. Food and supplement sources are required for omega-3 intake. Omega-3 fatty acids are found in fresh fish, wild game, nuts, and leafy green vegetables.

People in the United States consume much higher omega-6 fatty acids than omega-3 fatty acids, approximately at a ratio of one omega-3 fats to 16 parts of omega-6 fats. Although the human body only requires half the amount of omega-3 fatty acids compared to omega-6 fatty acids, to maintain good health Americans still need a great deal more omega-3 fatty acids—through diet and supplementation--than they currently consume.

Omega-6 fatty acids food sources include safflower oil as the richest natural source, sunflower oil, corn oil, sesame oil, hemp oil, pumpkin oil, soybean oil, walnut oil, wheatgerm oil, and evening primrose oil.

Previous studies have linked omega-6 fatty acids with inflammation and other cancers, including lung and breast cancer. Nutritionists note that a minimal amount of omega-6 fatty acids play a positive role in health maintenance.

The recently published laboratory study on prostate cancer cells demonstrated that omega-3 fatty acids blocked prostate cancer cell growth and omega-6 fatty acids promoted prostate cancer cell growth. “This invasion (cancer cell growth) was blocked by omega-3 fats - the ones found in oily fish. It is possible to have a healthy balance of these two types of fat - we only need about half as much omega-3 as omega-6 - that will still stop cancer cells from spreading,” said Mick Brown, Ph.D., lead author of the study from the Paterson Institute in Manchester, UK.

The study, funded by the Association for International Cancer Research (AICR) and the Medical Research Council (MRC), was performed on prostate cancer cell cultures. The results may or may not be applicable to prostate cancer in humans. Further studies are needed to confirm the effects of omega-3 fatty acids and omega-6 fatty acids on the progression of prostate cancer.

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Early Stage Prostate Cancer Treatment Choices

“Treatment Choices for Men with Early Stage Prostate Cancer” is a new publication offered at no charge by the National Cancer Institute (NCI) to help newly-diagnosed men understand the treatment options available to them for prostate cancer found in the early stages when cancer is confined to the prostate. The booklet discusses the risks and benefits of surgery, radiation, and watchful waiting, and also provides a comparison chart to give basic information about the three options. This NCI publication discusses the importance of personal preference in weighing the risks and benefits of treatment and provides a list of questions to ask. You can order this publication at no cost through the NCI website at www.cancer.gov or by calling 1-800-4-CANCER.

Potential Warning Signs

What are the Symptoms of Prostate Cancer?

Many men with prostate cancer often have no symptoms. If symptoms appear, they can include the following.

- blood in the urine
- the need to urinate frequently, especially at night
- weak or interrupted urine flow
- pain or burning feeling while urinating
- the inability to urinate
- constant pain in the lower back, pelvis, or upper thighs

If you have any of these symptoms, see your doctor as soon as possible. Keep in mind that these symptoms are also caused by other prostate problems that are not cancer, such as an infection or an enlarged prostate.

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15248 South Tamiami Trail, Suite 1000
Fort Meyers, FL 33908
1-888-50-APCAP or 1-888-502-7227
Email: info@apcap.org

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