Strang Cancer Prevention Institute
Dedicated to Promote Cure by Early Detection and Research to Prevent Cancer since 1933

Prevention

Prostate Cancer Awareness Month September 2015

RISK FACTORS FOR PROSTATE CANCER

Prostate cancer is found mainly in older men. Although prostate cancer is the most common cancer in the US, other than skin cancer, most men diagnosed with this disease do not die from it. Prostate cancer occurs more often in African-American men than in white men, occurs earlier and is more than twice as likely to be fatal.

Risk Factors

Risk factors for prostate cancer include the following:
Increasing age, starting at 50 years of age or older.
Being black.
Having a brother, son, or father who had prostate cancer.
Eating a diet high in animal fat.

Screening

There is no routinely screening test for prostate cancer. The best-studied tests to detect prostate cancer are the following:

Digital rectal exam
Prostate-specific antigen test

Digital rectal exam (DRE) is an exam of the rectum. The doctor or nurse inserts a lubricated, gloved finger into the lower part of the rectum to feel the prostate for lumps or anything else that seems unusual. Most prostate cancers are in the area closest to the rectum.

A prostate-specific antigen (PSA) test measures a substance made mostly by the prostate that is often increased in the blood of men who have prostate cancer. The level of PSA may also be high in men who have an infection or inflammation of the prostate (prostatitis) or benign prostatic hyperplasia (BPH; an enlarged, but noncancerous, prostate).

If a man has a high PSA level and a biopsy of the prostate does not show cancer, a prostate cancer gene 3 (PCA3) test may be done. This test measures the amount of PCA3 in the urine. If the PCA3 level is high, another biopsy may help diagnose prostate cancer.

Although the digital rectal exam alone has not been helpful in screening, scientists are studying the combination of PSA testing and digital rectal exam.

Risks of Prostate Cancer Screening

Screening tests have risks. The risks of prostate screening include the following: Finding prostate cancers that would otherwise not be found or cause symptoms. Treating these cancers causes treatment-related side effects but do not help a man live longer.

False-positive test results can occur, leading to anxiety and follow-up tests, such as a biopsy.
False-negative test results can occur.
Decisions about screening tests can be difficult. Not all screening tests are helpful and most have risks. Before having any screening test, you may want to discuss the test with your doctor. It is important to know the risks of the test and whether it has been proven to reduce the risk of dying from cancer.
Screening may not improve your health or help you live longer if you have cancer that has already spread to the area outside of the prostate or to other places in your body. Some cancers never cause symptoms or become life-threatening, but if found by a screening test, the cancer may be treated. Finding these cancers is called over-diagnosis. Treatment of these cancers would not help you live longer than if no treatment were given, and treatments for cancer, such as surgery and radiation therapy, may have serious side effects.

Some studies of patients with prostate cancer showed these patients had a higher risk of death from cardiovascular (heart and blood vessel) disease or suicide. The risk was greatest the first year after diagnosis.

If a PSA test is higher than normal, a biopsy of the prostate may be done. Complications from a biopsy of the prostate may include fever, pain, blood in the urine or semen, and urinary tract infection. Even if a biopsy shows that a patient does not have prostate cancer, he may worry more about developing prostate cancer in the future.
Screening test results may appear to be normal even though prostate cancer is present. A man who receives a false-negative test result (one that shows there is no cancer when there really is) may delay seeking medical care even if he has symptoms.
Screening test results may appear to be abnormal even though no cancer is present. A false-positive test result (one that shows there is cancer when there really isn't) can cause anxiety and is usually followed by more tests, (such as biopsy) which also have risks.

Your doctor can advise you about your risk for prostate cancer and your need for screening tests.

Overview of Prostate Cancer Screening Studies

Evaluation of randomized trials of prostate-specific antigen (PSA) – based screening. Randomized trials and cohort studies of prostatectomy or radiation therapy versus watchful waiting have been carried out and large observational studies of harms of treatment has been carried out by the US Preventive Services Task Force (USPSTF). The USPSTF found that of 5 screening trials, the 2 largest and highest-quality studies reported conflicting results. One found that screening was associated with reduced rate of death from prostate cancer compared with no screening in a subgroup of men aged 55 to 69 years after 9 years. However the absolute risk reduction was 0.07%. The other found no statistically significant effect after 10 years. After 3 or 4 screening rounds, just over 10% of screened men had false-positive results. Serious infections or urinary retention occurred after 0.5% to 1.0% of prostate biopsies. There were 3 randomized trials and 23 cohort studies of treatments. One good-quality trial found that prostatectomy for localized prostate cancer decreased risk for prostate cancer–specific mortality compared with watchful waiting through 13 years of follow-up (relative risk, 0.62 [CI, 0.44 to 0.87]; absolute risk reduction, 6.1%). Benefits seemed to be limited to men younger than 65 years. Treating approximately 3 men with prostatectomy or 7 men with radiation therapy instead of watchful waiting would each result in 1 additional case of erectile dysfunction. Treating approximately 5 men with prostatectomy would result in 1 additional case of urinary incontinence. Prostatectomy was associated with perioperative death (about 0.5%) and cardiovascular events (0.6% to 3%), and radiation therapy was associated with bowel dysfunction.

The USPSTF conclusions. Prostate-specific antigen–based screening results in small or no reduction in the death rate from prostate cancer and is associated with harms related to subsequent evaluation and treatments, some of which may be unnecessary. These findings resulted in a recommendation not to screen for prostate cancer.

In contrast the American Cancer Society and the American Urological Association have not recommended against prostate-specific antigen-based screening.

Conclusion

Because of conflicting opinions in the medical profession men over 50 years of age without risk factors should have a discussion with their physician before deciding whether to be screened for prostate cancer or not. African American men and men whose father or brothers have prostate cancer may want to have the discussion at age 45.

Sources: National Institutes of Health National Cancer Institute, United States Preventive Services Task Force
For more information visit **www.strang.org**

PROSTATE CANCER PREVENTION

Avoiding Risk Factors and Increasing Protective Factors may Help Prevent Cancer

The following risk factors may **increase** the risk of prostate cancer:

- Testosterone
- Vitamin E
- Folic Acid
- Dairy and Calcium

The following protective factors may **decrease** the risk of prostate cancer:

- Folate
- Finasteride and Dutasteride

The following have been **proven not to affect the risk** of prostate cancer, or their **effects on prostate cancer risk are not known**:

- Selenium and Vitamin E
- Diet , Multivitamins, Lycopene

RISK FACTORS

Testosterone: The prostate needs male hormones to work the way they should. The main male sex hormone is testosterone. Testosterone helps the body develop and maintain male sex characteristics. Testosterone is changed into dihydrotestosterone (DHT) by an enzyme in the body. DHT is important for normal prostate growth but can also cause the prostate to get bigger and may play a part in the development of prostate cancer.

Vitamin E: The Selenium and Vitamin E Cancer Prevention Trial (SELECT) found that vitamin E taken alone increased the risk of prostate cancer. The risk continued even after the men stopped taking vitamin E.

Folic Acid: Folate is a form of vitamin B that occurs naturally in some foods, such as green vegetables, beans and orange juice. Folic acid is a man-made form of folate that is found in vitamin supplements and fortified foods, such as whole-grain breads and cereals. A 10-year study showed that the risk of prostate cancer was increased in men who took 1 milligram (mg) supplements of folic acid. However, the risk of prostate cancer was lower in men who had enough folate in their diets.

Dairy and Calcium: A diet high in dairy foods and calcium may cause a small increase in the risk of prostate cancer.

Protective and Non Protective Factors

PROTECTIVE FACTORS

Folate: A form of vitamin B that occurs naturally in some foods, such as green vegetables, beans and orange juice. Folic acid is a man-made form of folate that is found in vitamin supplements and fortified foods, such as whole-grain breads and cereals. A 10-year study showed that the risk of prostate cancer was lower in men who had enough folate in their diet
However, the risk of prostate cancer was increased in men who took 1 milligram (mg) supplements of folic acid.

Finasteride and Dutasteride: Finasteride and dutasteride are drugs used to lower the amount of male sex hormones made by the body. These drugs block the enzyme that changes testosterone into dihydrotestosterone (DHT). Higher than normal levels of DHT may play a part in developing prostate cancer. Taking finasteride or dutasteride has been shown to lower the risk for prostate cancer, but it is not known if these drugs lower the risk of death from prostate cancer.
The Prostate Cancer Prevention Trial (PCPT) studied whether the drug finasteride can prevent prostate cancer in healthy men 55 years of age and older. This prevention study showed there were fewer prostate cancers in the group of men that took finasteride compared with the group of men that did not. Also, the men who took finasteride who did have prostate cancer had more aggressive tumors. The number of deaths from prostate cancer was the same in both groups. Men who took finasteride reported more side effects compared with the group of men that did not, including erectile dysfunction, loss of desire for sex, and enlarged breasts.

The Reduction by Dutasteride of Prostate Cancer Events Trial (REDUCE) studied whether the drug dutasteride can prevent prostate cancer in men aged 50 to 75 years at higher risk for the disease. This prevention study showed there were fewer prostate cancers in the group of men who took dutasteride compared with the group of men that did not. The number of less aggressive prostate cancers was lower, but the number of more aggressive prostate cancers was not. Men who took dutasteride reported more side effects than men who did not, including erectile dysfunction, loss of desire for sex, less semen, and gynecomastia (enlarged breasts).

NON PROTECTIVE FACTORS

Selenium and vitamin E: Selenium and Vitamin E Cancer Prevention Trial (SELECT) studied whether taking vitamin E and selenium (a mineral) will prevent prostate cancer. The selenium and vitamin E were taken separately or together by healthy men 55 years of age and older (50 years of age and older for African-American men). The study showed that taking selenium alone or selenium and vitamin E together did not decrease the risk of prostate cancer.
Diet: It is not known if decreasing fat or increasing fruits and vegetables in the diet helps decrease the risk of prostate cancer or death from prostate cancer. In the PCPT trial, certain fatty acids increased the risk of high-grade prostate cancer while others decreased the risk of high-grade prostate cancer.
Multivitamins: Regular use of multivitamins has not been proven to increase the risk of early or localized prostate cancer. However, a large study showed an increased risk of advanced prostate cancer among men who took multivitamins more than seven times a week.
Lycopene: Some studies have shown that a diet high in lycopene (rich in tomato concentrates) may be linked to a decreased risk of prostate cancer, but other studies have not. It has not been proven that taking lycopene supplements decreases the risk of prostate cancer.

The Strang Cancer Prevention Cookbook

Reduce your Risk for Cancer by Eating a Healthy Diet!

Tomato-Basil Sauce 4 Servings

2 pounds plum tomatoes (10-12)
1 tablespoon olive oil
2 garlic cloves, crushed
1 small onion (about 1/4 pound), chopped
½ cup fresh basil leaves cut into long strips
Salt and freshly ground black pepper

Core the tomatoes and drop them into boiling water for 20 to 30 seconds.
Slip off the skins and slice the tomatoes in half horizontally. Gently squeeze the halves over a bowl to squeeze out the seeds. Use your fingers to remove any remaining seeds. Discard the seeds, chop the tomatoes and reserve.

Heat the olive oil in a medium nonstick skillet over high heat. Add the crushed garlic and cook until lightly browned, then remove and discard. Add the onion to the skillet and cool over medium heat until soft, about 5 minutes, stirring often. Add the reserved tomatoes and bring to a simmer. Cook uncovered over medium heat, stirring occasionally for 30 minutes, until the sauce thickens.
Stir in basil, season with salt and pepper, and simmer for 2 to 3 minutes.

Calories 93, protein 3g, carbs 14 g, fat 4 g, cholesterol 0 mg, dietary fiber 3 g, saturated fat 1 g

MAJOR SOURCES OF POTENTIAL CANCER FIGHTERS

Phytochemicals: allium compounds, plant polyphenols (flavonoids, phenolic acids) plant sterols, phytic acids, terpenes, (carotenoids, monoterpenes)

Recipe by Laura Pensiero, R.D. Owner Gigi Trattoria, Rhinebeck, New York

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