By Michael T. Murray, ND

Prostate Cancer:

Proactive Waiting vs. Watchful Waiting

Prostate cancer (PC) is the most diagnosed form of cancer in American men. Each year there are roughly 200,000 men that are diagnosed with PC and more than 30,000 will die from it. Most PCs are slow growing; however, there are cases of aggressive PCs. The cancer cells may metastasize (spread) from the prostate to other parts of the body, particularly the bones and lymph nodes.

Retailers need to be aware of some basic facts regarding prostate cancer and proactive steps that men can take to reduce their risk of dying from prostate cancer.

Causes

Studies have found that the following risk factors are consistently associated with PC:

• *Family history of prostate (or breast) cancer:* A man's risk for developing PC is higher if his father (twofold) or brother (fivefold) has had the disease as well as if his mother or sister had breast cancer (twofold for both).

• *Age:* In the United States, PC is mainly found in men over age 55—more than eight out of 10 are over age 65. The average age of patients at the time of diagnosis is 70.

• *Race:* PC is roughly twice as common in African American men than in white men. It is less common in Asian and American Indian men.

• *Hormonal factors:* Testosterone excess is thought to stimulate hormone-dependent PC in much the same way that estrogen stimulates breast cancer. Other hormones implicated are estrogen and prolactin.

• *Diet & dietary factors:* Current research indicates that diets high in red meat, dairy and saturated fat are associated with an increase risk of developing PC. Risks also increased for those who have diets low in fruits, vegetables, "phytoestrogens," selenium, lycopene and long-chain omega-3 fatty acids (EPA+DHA). Further, higher con-

sumption of hamburgers, processed meats, grilled meats and well-done meat is associated with an approximately 50 to 80 percent increase in aggressive forms of PC.

PSA Test Basics

The blood test for prostate-specific antigen (PSA) will usually be elevated in men with PC. However, approximately 35 percent of men with diagnosed PC will have a "normal" PSA of less than four. The level of PSA in the blood tends to rise with PC, but minor elevations may be due to less serious conditions like prostatitis (inflammation of the prostate) and benign prostatic hyperplasia (BPH, enlargement of the prostate). The higher the PSA level, the more likely it is that cancer is present.

PSA levels alone do not give doctors enough information to distinguish between benign prostate conditions and cancer, but the doctor will take the result of this test into account in deciding whether to check further for signs of PC including a biopsy.

To Screen or Not to Screen

The rationale for early detection of cancer is that it leads to more effective treatment. Unfortunately, the data on PSA screening for PC does not support this notion. In fact, the Centers for Disease Control and Prevention (CDC) and the U.S. Preventive Services Task Force believe that PSA screening produces more harm than good based upon very extensive analyses. Harms of screening included high rates of false-positive results for the PSA test resulting in over-diagnosis and the adverse events associated not only with biopsies (such as infection, bleeding and pain), but also in the treatment of PC with chemotherapy and radiation. It is believed that in most cases, the PC would not have seriously affected many lives if it had simply been left alone. Most PCs are extremely slow growing, meaning that men can live with PC, rather than die from it. In fact, autopsy studies report that more than 30 percent of all men over the age of 50 have evidence of PC, but only three percent will die from it.

Fish Oil & Prostate Cancer

On July 10, 2013, major media headlines and news stories claimed "Too Much Fish Oil Might Boost Prostate Cancer Risk." Wow, that sure seems fishy given all of the positive health benefits linked to fish oil intake. In examining the study, there are numerous issues that clearly indicate that perhaps the conclusion is wrong, but really a study's conclusion is only as good as the data used (garbage in = garbage out). Here are the important considerations when looking at this study:

- This study is not consistent with other studies (discussed below).
- The study did not include information or documentation of fish or fish oil intake in the study group. It was not set up initially to evaluate these factors, hence its relevance is not as significant as studies designed to specifically determine the impact of omega-3 fatty acids on prostate cancer risk.
- There is no evidence that anybody in this study took fish oil supplements or even ate fish.
- The blood test used, plasma phospholipid levels of EPA and DHA, reflects very recent intake and is considered a poor biomarker of long-term omega-3 intake.
- The study did not measure plasma phospholipids on an individual basis and instead pooled data from blood samples collected at enrollment of the study.

Lastly, the following statement by the authors suggests that they may have significant bias: "There is really no evidence that taking dietary supplements is beneficial to health, and there is increasing evidence that taking high doses is harmful." Such a statement shows a clear axe to grind in light of a great deal of scientific evidence on the value of dietary supplementation.

What Do Other Studies Show?

In addition to population-based studies, several studies have been conducted that were actually designed to determine the effects of fish and fish oil consumption in prostate cancer. In a detailed meta-analysis conducted in 2010, while fish consumption did not affect prostate cancer incidence, it was associated with 63 percent reduced mortality due to prostate cancer. A meta-analysis examines all previously conducted studies. Here are some of the results from some of these studies:

- Researchers investigated the effect of dietary fatty fish intake among 6,272 Swedish men who were followed for 30 years. Results showed that men who ate no fish had a two to threefold increase in the risk of developing prostate cancer compared with those who consumed large amounts of fish in their diet.
- Data from the Physician's Health Study, a study spanning 22 years, found that fish consumption (≥five times per week) reduced the risk of dying from prostate cancer by 36 percent.
- A study conducted by the Harvard School of Public Health that involved 47,882 men over 12 years found that eating fish more than three times a week reduced the risk of prostate cancer, but had an even greater impact on the risk of metastatic prostate cancer. For each additional 500 mg of marine fat consumed, the risk of metastatic disease decreased by 24 percent.
- In one of the best-designed studies, researchers in New Zealand examined the relationship between prostate cancer risk and EPA+ DHA in red blood cells (a more reflective marker for long-term omega-3 fatty acid intake). Higher levels of EPA+DHA were associated with a 40 percent reduced risk of prostate cancer.
- In a study of 47,866 U.S. men aged 40-75 years with no cancer history in 1986 who were followed for 14 years, EPA+DHA intake at the highest levels was associated with a 26 percent reduced risk of developing prostate cancer.

Practical Interpretation: Be Proactive

My feeling is that the problem with early screening is what happens after the screening. In the case of an elevated PSA, many experts now recommend "watchful waiting" versus immediate biopsy. Exceptions to this rule would be if there were a significant recent consistent rise of PSA or a family history of PC. And, even if the biopsy is positive, most experts now also recommend a conservative approach should be taken with the majority of men—in other words, watchful waiting. Now, that does not mean that I advocate idleness with watchful waiting. In fact, I recommend just the opposite by aggressively focusing on diet and proper supplementation.

Key Supplement Strategies

There are a number of dietary supplements that have shown considerable benefit in men with existing PC. These supplements are especially important considerations as nutritional support for men in the watchful waiting period. Due to space constraints, I am going to focus on the following clinically studied compounds: lycopene, ground flaxseeds and green tea polyphenols.

• *Lycopene:* The red carotene primarily found in tomato products, lycopene is one of the most important anticancer nutrients, especially for the prostate. Lycopene's role as a protector against PC was highlighted in a study conducted by Harvard researchers that found that, of all of the different types of carotenes, only lycopene was clearly linked to protection against PC. The men who had the greatest amounts of lycopene (6.5 mg per day) in their diet showed a 21 percent decreased risk of PC compared with those eating the least. When the researchers looked at only advanced PC, the high lycopene group had an 86 percent decreased risk. In a study of patients with existing PC, lycopene supplementation (15 mg per day) was shown to slow tumor growth. In subjects consuming the lycopene supplement, prostate tumors shrunk and produced reduced levels of PSA. Hence, the recommended dosage of lycopene during watchful waiting is 15 mg daily.

• *Flaxseed:* Ground flax appears to be quite helpful not only in preventing PC, but also in men with existing PC. Flaxseed lignans bind to male hormone receptors and promote the elimination of testosterone. In a study of men with PC, a low-fat diet (≤ to 20 percent of total calories) supplemented with 30 g of ground flaxseed (roughly two tablespoons) reduced serum testosterone by 15 percent, slowed the growth rate of cancer cells and increased the death rate of cancer cells after only 34 days, according to a study conducted at the Duke University Medical Center and Durham Veterans Affairs Medical Center.

• *Green Tea Polyphenols:* Population-based studies have demonstrated that green tea consumption may offer significant protection against many forms of cancer including PC. Test tube and animal studies have shown epigallocatechin gallate (EGCG)—a major polyphenol in green tea—produces marked inhibition of both hormone-sensitive and -insensitive PC cells.

A proof-of-principle clinical trial was designed to assess the safety and efficacy of green tea polyphenols for the prevention of precancerous lesions developing into PC within one year. The 60 men were given either a placebo or 600 mg of green tea polyphenol extract (GTPE) daily. After one year, only one tumor was diagnosed among the 30 GTPE-treated men, whereas nine cancers were found among the 30 placebo-treated men. Total PSA levels were consistently lower with respect to placebo-treated ones. Men that also had BPH also significantly improved on the GTPE. **VR**

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