Diet and medications may assist prevention of prostate cancer

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Recent investigations of medications, diet and the molecular understanding of prostate cancer are defining potential prevention strategies for the disease, and herald a new stage in the management of this cancer, according to a new review.

Writing in the November 1, 2007 issue of CANCER, a peer-reviewed journal of the American Cancer Society, Dr. Neil Fleshner and Dr. Alexandre Zlotta from the University of Toronto say that available medications, such as 5-alpha reductase inhibitors and selective estrogen receptor modifiers, show promise in reducing malignancies. In addition, there is strong evidence that dietary fat significantly impacts disease development and promising data that other compounds, such as soy, selenium and green tea, offer additional possibilities for disease prevention.

Prostate cancer is one of the most frequently diagnosed malignancies in men among Western, developed nations. In the United States, it is the second leading cause of cancer-related deaths in men. Generally, prostate cancer is a slow growing malignancy taking years to decades to become symptomatic. Drs. Fleshner and Zlotta point to studies that suggest prostate cells become malignant in men in their 20s and 30s and conclude , “unless we intervene with men in their early 20’s, prevention in the context of prostate cancer refers to a slowing of the growth of existing prostate cancer cells so that they never harm the host.”

The authors reviewed the published literature to evaluate the progress

towards developing an evidence-based prostate cancer prevention strategy. Current studies using existing drugs to prevent cancer have found that androgen suppressing 5-alpha reductase inhibitors (5ARI), such as finasteride and dutasteride, and the selective estrogen receptor modifier, toremifine, have showed promise in reducing the number of cancers at biopsy in men. For example, dutasteride, has reduced by 50 percent the number of cancerous biopsies among men with benign prostatic hypertrophy. A large clinical trial is underway to evaluate whether this drug prevents malignant biopsies in men with elevated prostate surface antigen levels but previously negative biopsies.

Other studies are currently investigating the role of reduced fat intake and dietary supplements in preventing prostate cancer. In one study of selenium, the incidence of prostate cancer was reduced by 49 percent over ten years. Other nutritional approachs, such as green tea, show conflicting results for prevention. Meanwhile studies of some approaches, like soy and vitamin D, are ongoing. Evidence for the use of vitamin E in the reducing disease rates is promising, but mild safety concerns at high doses currently tested raise caution.

The next five years will be a dynamic period in evaluating several prevention strategies because “a host of phase III studies that have been completed and analyzed (i.e. PCPT) or completed accrual” will be published.

But in the future, according to the authors, understanding the molecular pathways that develop, sustain and progress malignant cells in the prostate will be critical in the development of new strategies. Data already suggests novel uses of statins, commonly prescribed cholesterol-lowering agents, and insulin modulating drugs, such as metformin or the glitazones. In addition, with further understanding the pathogenesis and related risk factors to identify high-risk patients, “we can then use metabolomics, and identify the appropriate agent for effective

chemoprevention.”

Source: John Wiley & Sons, Inc.

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