More Evidence That Selenium Reduces Prostate Cancer Risk

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In the July 2012 issue of the *American Journal of Clinical Nutrition* a published report analyzing the data from twelve studies showed that higher blood levels of selenium and higher toenail levels of selenium are associated with a lower risk of prostate cancer. Both blood levels (plasma levels) and toenail levels of selenium reflect oral intake of selenium. In the past, several human studies have shown that higher selenium levels may help defend against the development of prostate cancer.

Data from the twelve studies reviewed in the July 2012 issue of the *American Journal of Clinical Nutrition* involved a total of 13,254 participants, including 5007 cases of prostate cancer. This meta-analysis showed that prostate cancer decreased with increasing plasma/serum selenium up to 170 ng/mL. Three high-quality studies included in the meta-analysis of toenail selenium and cancer risk indicated a significant reduction in prostate cancer risk with a toenail selenium concentration between 0.85 and 0.94 µg/gm. (1)

Correlation studies of this kind are not absolute proof that higher selenium intake reduces risk of prostate cancer. However, there is evidence to show that selenium status may be a significant factor in combating prostate cancer. A 2005 study in the *Journal of Urology* showed that providing prostate cancer patients (who had localized disease and a low-to-moderate Gleason score) with a low animal fat diet, soy foods, along with daily supplementation including Vitamin E – 400 IU, Vitamin C – 2000 mg and selenium – 200 mcg, along with moderate exercise, witnessed reversal of their disease (reduced PSA over a one year period) and showed other signs of disease regression, compared to men with localized prostate cancer (with a low-to-moderate Gleason score), who did not follow the diet, supplement and exercise program outlined above. The Gleason score rates the aggressiveness of the cancer. The highest Gleason score is 10 and the lowest score is 2. These scores are assigned by pathologists who examine prostate cancer tumors derived from a prostate biopsy. (2)

Over the years many experimental studies have shown that selenium possesses various anti-cancer properties. Some of these include:

- Inducing programmed cell death of cancer cells (apoptosis)
- Slowing the rate of cell division of cancer cells
- Protecting DNA from mutations that may lead to cancer when exposed to known carcinogens. (3)

Based on the totality of evidence, I recommend ingesting 200 mcg of selenium per day from a high potency multiple vitamin and mineral supplement that also contains 400 IU Vitamin E Succinate, 1000 mg Vitamin C, 1000 IU Vitamin E, 6 mg lycopene powder, 15 mg zinc. All of these nutrients have been shown to promote health of the prostate gland.

Below is a link to a ***Nutrition Research Update*** video on prostate health. Please feel free to forward this link to your patients, as appropriate.

http://www.youtube.com/watch?feature=player_embedded&v=BelJtWz97-I

For more information on this or other related topics,

please visit: http://www.meschinohealth.com

References:

1. Hurst R. et al. Selenium and prostate cancer: systematic review and meta-analysis. Am J Clin Nutr July 2012 vol. 96 no. 1 111-122 **(http://ajcn.nutrition.org/content/96/1/111.abstract#aff-1)**
2. Ornish D. et al. Intensive Lifestyle Changes May Affect Progression of Prostate Cancer. Journal of Urology. 2005. Vol 174: 1065-1070
3. Jackson MI and Combs GJ Jr. Selenium and anti-carcinogenesis: underlying mechanisms. Current Opinion in Clinical Nutrition and Metabolic Care. 2008. 11: 718-726.

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