DO OMEGA 3 SUPPLEMENTS INCREASE THE RISK OF PROSTATE CANCER?

A high intake of omega-3 fatty acid, which is found in fish oil, might significantly boost the risk of developing prostate cancer, according to a recent prospective study published online in the July 11 issue of the *Journal of the National Cancer Institute*.

It claimed that overall, men who had high blood concentrations of long-chain omega-3 polyunsaturated fatty acids (PUFA) had a significant 43% increase in the risk for all grades of prostate cancer, compared with men who had the lowest concentrations.

The 2 sources of these fatty acids in blood are food and supplements, so the blood samples used represented total exposure.

From Webscape – *the leading web resource for physicians and other health professionals:*

Conflicting Data

Previous studies have reported conflicting results on the benefits and risks of fish oils, either consumed as fish or in supplements, in cancer patients.

Fish oil supplements were associated with a lower risk for breast cancer in postmenopausal women in the Vitamins and Lifestyle (VITAL) cohort study (*Cancer Epidemiol Biomarkers Prev*. 2010;19:1696-1708), as previously reported by *Medscape Medical News*. Although that study, which was also led by Dr. Brasky (author of the current SELECT study), found that "fish oil is a potential candidate for chemoprevention studies," it is currently "not recommended for individual use for breast cancer prevention."

Another study found that in men with a genetic predisposition to prostate cancer, the consumption of a diet rich in omega-3 fatty acids can lower the risk for disease (*J Clin Invest*. 2007;117:1866-1875). In that study, a diet high in omega-3 fatty acid reduced prostate tumor growth and increased survival, but omega-6 fatty acids had the opposite effects.

More Definitive Research Needed

Eliot Brinton, MD, director of atherometabolic research at the Utah Foundation for Biomedical Research in Salt Lake City, who was asked by *Medscape Medical News* to comment on the findings, said the data suggest that there might be an effect.

However, "this is an observational study, and these studies usually generate rather than confirm hypotheses," he explained. "For observational data, they came to a fairly strong conclusion. It is a little puzzling, interesting, and provocative. It raises questions but is a long way from being definitive."

"It highlights the potential differences between DHA and EPA," Dr. Brinton added. "More definitive studies are needed that address that."

Dr. Brinton pointed out that recent observational data have shown a benefit in breast cancer, so the effect doesn't appear to be uniform across cancer types. There is also limited information about how the blood levels were reached. "We don't know if it was from supplementation, a prescription for fish oil, or diet," he said, "or possibly the manner in which the omega-3 fatty acids were metabolized."

He noted that many population studies have shown the benefits of fish intake. "There remains a consensus among nutrition scientists that eating fish remains healthy, with caveats,"

Ref:
http://www.medscape.com/viewarticle/808139?nlid=32186_589&src=wnl_edit_medn_fmed&uac=149583HR&spon=34

Below are the comments from Nutri Advanced, on the 12th July:

"High levels of long chain omega-3 may increase prostate cancer risk" was the title in many international and national newspapers yesterday morning which caused concern among omega-3 Fish Oil supplement users. Extensive research has been carried out on omega-3 fatty acids and their positive benefits in relation to cardiovascular function, brain function, joint health, skin health and general health. This study, which was carried out by the Fred Hutchinson Cancer Research Centre, USA, and published in the Journal of the National Cancer Institute, was a sub trial of SELECT (Selenium and Vitamin E Cancer Prevention Trial). Using data from the SELECT study, the participants included 834 men who had been diagnosed with prostate cancer, along with a comparison group of 1,393 men selected randomly from the original 35,500 participants. Analysis of blood plasma levels concluded that long chain omega-3 PUFA overall, and DPA and DHA in particular, were associated with linear increases in prostate cancer risk.

On further investigation into the trial, there are many limitations to this study. This study only discusses a correlation and correlation does not equal causation. There is a long way to go until a cause and effect relationship between intake of oily fish and risk of prostate cancer can be indicated. In addition, this study doesn't include any information about how omega-3 intake was achieved, whether through diet or supplementation, yet the researchers are quick to blame supplementation. The trial was lacking control as participants were asked to complete self-administered questionnaires concerning alcohol intake and smoking habit amongst other factors. No participant was asked about diet or fish oil supplementation levels. It is also unclear from the results exactly how high levels of omega-3 could increase the risk of prostate cancer."

In a 2010 meta-analysis of 31 studies published in the American Journal of Clinical Nutrition, the risk of prostate cancer diagnosis calculated for high fish consumption ranged from 61%

decrease in risk to a 77% increase in risk, and several showed no significant difference in risk at all.

In conclusion then, this newly published study contained no evidence of causation in relation to Omega-3 fatty acids supplements and prostate cancer. Omega-3 fatty acids, whether obtained from oily fish or from supplements, remain one of the safest, most researched, most beneficial elements of a healthy diet.

Extract from Dr Michael Murray, a leading naturopathic doctor:

Important considerations of this data are the following:

- 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.
- In usual circumstances, plasma levels of EPA and DHA reflect very recent intake and are 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 enrolment of the study.
- Fish and fish oil ingestion produces a big rise in plasma omega-3 levels in about 4.5 hours and washes out around 48 hours.
- The data may reflect cancer activity rather than a causative association. Without dietary history or documentation of fish oil use there is no way of knowing.

Final Comments

The best thing about this study is that it will stimulate more research into the role of omega-3 fatty acids in prostate health. The worst thing about this study is that it may lead to many men abandoning the use of fish oil supplements. Based upon a large amount of clinical data it makes sense for men to be consuming 1,000 mg of EPA+DHA daily for general health.

Ref: http://doctormurray.com/how-a-selected-bad-study-became-big-news/