

NUTRITION HORIZON

Omega-3 Fatty Acids Reduce Risk of Advanced Prostate Cancer

Date: 25 Mar 2009

Summary: *The researchers then assessed the effect of omega-3 fatty acid among men with the variant rs4647310 in COX-2, a known inflammatory gene. Men with low long chain omega-3 fatty acid intake and this variant had a more than five-fold increased risk of advanced prostate cancer.*

25/03/09 Omega-3 fatty acids appear protective against advanced prostate cancer, and this effect may be modified by a genetic variant in the COX-2 gene, according to a report in Clinical Cancer Research, a journal of the American Association for Cancer Research.

"Previous research has shown protection against prostate cancer, but this is one of the first studies to show protection against advanced prostate cancer and interaction with COX-2," said John S. Witte, Ph.D., professor of epidemiology and biostatistics at the University of California San Francisco.

For the current study, researchers performed a case-control analysis of 466 men diagnosed with aggressive prostate cancer and 478 healthy men. Diet was assessed by a food frequency questionnaire and researchers genotyped nine COX-2 single nucleotide polymorphisms.

Researchers divided omega-3 fatty acid intake into four groups based on quartiles of intake. Men who consumed the highest amount of long chain omega-3 fatty acids had a 63 percent reduced risk of aggressive prostate cancer compared to men with the lowest amount of long chain omega-3 fatty acids.

The researchers then assessed the effect of omega-3 fatty acid among men with the variant rs4647310 in COX-2, a known inflammatory gene. Men with low long chain omega-3 fatty acid intake and this variant had a more than five-fold increased risk of advanced prostate cancer. But men with high intake of omega-3 fatty acids had a substantially reduced risk, even if they carried the COX-2 variant.

"The COX-2 increased risk of disease was essentially reversed by increasing omega-3 fatty acid intake by a half a gram per day," said Witte. "If you want to think of the overall inverse association in terms of fish, where omega-3 fatty acids are commonly derived, the strongest effect was seen from eating dark fish such as salmon one or more times per week."

