Researchers uncover how vitamin D slows prostate cancer

By Kathleen Blanchard RN on April 1, 2012 - for eMaxHealth

Researchers have been able to show how vitamin D slows the growth of prostate cancer. Though more research is needed, scientists say they've discovered that vitamin D supplements lower levels of a key protein called Ki67 that indicates the disease is spreading, in addition to increasing levels of cancer growth-inhibitory microRNAs to slow the rate of prostate cancer growth.

MicroRNA's are implicated for initiating cancer and contributing to its spread because they interfere with genes and proteins that would normally kill cancer cells.

The finding is important because it shows how vitamin D affects prostate cancer. The vitamin in plain form was found to raise levels of calcitrol, also known as 1,25-dihydroxycholecalciferol or 1,25-dihydroxyvitamin D3

High doses of the vitamin have not been recommended for men fighting the disease. Understanding how it works could improve outcomes for men diagnosed with prostate cancer could lead to better outcomes and might also prove to be useful for prevention. Past studies have shown patients with advanced cancer are the most deficient in the vitamin. Reinhold Vieth, Ph.D., professor at the University of Toronto in Toronto, Ontario, Canada said in a press release, "This study shows calcitriol makes the foot come off the gas pedal of cancer growth. We are not able to prove that the speed of the car has slowed down, but it certainly is a good sign."
We expect that this early-phase clinical trial will open the door for more detailed clinical research into the usefulness of vitamin D in the treatment or prevention of prostate cancer."

Earlier studies from Vieth's team showed plain vitamin D slowed rising PSA levels in a group of 66 men who were scheduled for prostatectomy. The researchers compared doses of 400, 10,000 or 40,000 IU given three to eight weeks before surgery.

Phase III trials planned

The highest dose of vitamin D raised calcitrol levels, but Vieth explains the men were given 40,000IU only because of the short time before surgery. The researchers don't recommend taking doses higher than 4,000IU daily. As calcitrol levels increased, the researchers saw lower prostate levels of Ki67 and higher levels of specific growth-inhibitory microRNAs.

Vieth said the dose of vitamin D used in the study was safe for the time-frame of their investigation. He says plain vitamin D gives the prostate a chance to regulate its own calcitrol levels; correlating with slower rate of prostate cancer growth. The next step is to conduct a phase III clinical study where men with prostate cancer who are being monitored for progression will receive either high dose vitamin D or placebo.

Source:
AACR News
"Oral Vitamin D Supplements Reduced Levels of Ki67 in Prostate Cancer Cells"
March 31, 2012