

Vitamin D and Painkiller Slow Prostate Cancer

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By Ed Edelson

THURSDAY, Sept. 1 - A combination of vitamin D and an over-the-counter painkiller halts the growth of prostate cancer cells, researchers at Stanford University report.

Although their work was done with cells grown in the laboratory, the results were so promising that a trial of the treatment has been started with prostate cancer patients, said Dr. David Feldman, a professor of medicine at Stanford and lead author of the study in the Sept. 1 issue of *Cancer Research*.

The trial used calcitriol, a form of vitamin D available only by prescription, and naproxen, sold over the counter as Aleve and other brand names. The original thought, Feldman said, was to use a prescription painkiller such as Vioxx in combination with vitamin D, but that was changed after the drug was withdrawn from the market because of its serious side effects.

The basic idea endured -- to increase the anti-cancer activity of vitamin D, which has been shown to have some effect in treating prostate and other cancers, Feldman said. His laboratory studies started with an effort to identify the genes which vitamin D acts on to inhibit cancer growth.

A full panel of genes was established in Feldman's laboratory, and "two genes in the prostaglandin pathway popped up," he said. Prostaglandins are hormones with a wide range of physical effects, including inflammation, and the two genes play a critical role in the production and breakdown of prostaglandins.

Vioxx is a member of the family of nonsteroidal anti-inflammatory drugs, which block prostaglandin production. Naproxen does the same thing, so it was tried in the prostate cancer cell cultures.

Calcitriol alone did have some effect in those cultures, reducing their growth by 25 percent. Combining it with naproxen produced a 70 percent reduction -- even when the doses of both compounds were reduced substantially. Thus, the combined treatment avoids such side effects as the kidney stones that can form when high doses of vitamin D are given.

The trial with prostate cancer patients "is proceeding very cautiously,"

Feldman said, with three enrolled so far.

All three have been treated by surgery or radiation, but have experienced a recurrence of the cancer. They take naproxen twice a day and a high dose of calcitriol once a week.

"We are giving this combination, and will evaluate them every eight weeks," said Dr. Sandy Srinivas, an assistant professor of medicine who is running the trial. "We are looking for a drop in PSA [prostate-specific antigen] to see if the disease can be slowed down by this combination. We are also looking at bone scans to see that this disease has not progressed."

Patients who have experienced a recurrence of prostate cancer were chosen for the trial "so that we will not delay a proven therapy" for newly diagnosed patients, Feldman said.

The trial eventually will enroll 31 participants who will be followed for two years. Meanwhile, Feldman said that use of over-the-counter vitamin D is not advisable, since only the highly potent form in calcitriol has produced an effect.