

## **Cancer news**

### **Vitamin K may boost effects of cancer pill Nexavar**

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CHICAGO, April 22 (Reuters) - Vitamin K may enhance the effects of the cancer drug Nexavar, which may allow patients to take lower, less-toxic doses, U.S. researchers said on Wednesday.

They said combining vitamin K with the cancer pill Nexavar, or sorafenib, sold by Onyx Pharmaceuticals Inc and German drugmaker Bayer AG helped it kill liver and pancreatic cancer in human cell cultures.

"K vitamins ... appear to enhance the effects of sorafenib, thus requiring lower, less-toxic doses," Dr. Brian Carr of Thomas Jefferson University in Philadelphia said in a statement.

"Many patients need to discontinue treatment with sorafenib because of the debilitating side effects," Carr said. "If we could lower the dose, more patients would be able to complete their treatment."

Nexavar is approved for use in liver kidney cancer and is being tested for an array of other cancers, including melanoma, lung and breast cancer. It had global sales last year of \$678 million.

Carr said combining the drug with vitamin K may help patients avoid hand-foot syndrome, a common side effect of Nexavar that affects about 20 percent of patients.

It typically causes painful sores on the soles of patients' feet that can prevent the patients from walking, said Carr, who presented his findings from two studies at the American Association for Cancer Research meeting in Denver.

He and colleagues tested both vitamin K1 and vitamin K in combination with sorafenib in pancreatic cell lines. Each combination inhibited cell growth, killed cells and slowed enzymes that promote cancer cell growth.

With vitamin K, the team could use half the normal dose and still slow cancer cell growth. Alone, the lower dose of sorafenib was ineffective.

In the second study, vitamin K1 also enhanced the effects of sorafenib in hepatocellular carcinoma or primary liver cancer.

Vitamin K is found in green, leafy vegetables such as kale, collard greens, broccoli, Brussels sprouts and parsley and is known to play a role in blood clotting and building bones.