Medical Xpress

Certain vitamin supplements may increase lung cancer risk, especially in smokers

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Vitamin supplements do not protect against lung cancer, according to a study of more than 77,000 vitamin users. In fact, some supplements may even increase the risk of developing it.

“Our study of supplemental multivitamins, vitamin C, vitamin E and folate did not show any evidence for a decreased risk of lung cancer,” wrote the study’s author, Christopher G. Slatore, M.D., of the University of Washington, in Seattle. “Indeed, increasing intake of supplemental vitamin E was associated with a slightly increased risk of lung cancer.”

The findings were published in the first issue for March of the American Thoracic Society’s American *Journal of Respiratory and Critical Care Medicine*.

Dr. Slatore and colleagues selected a prospective cohort of 77,126 men and women between 50 and 76 years of age in the Washington state VITAL (VITamins And Lifestyle) study, and determined their rate of developing lung cancer over four years with respect to their current and past vitamin usage, smoking, and other demographic and medical characteristics.

Of the original cohort, 521 developed lung cancer, the expected rate for a low-risk cohort such as VITAL. But among those who developed lung cancer, in addition to the unsurprising associations with smoking history, family history, and age, there was a slight but significant association between use of supplemental vitamin E and lung cancer.

“In contrast to the often assumed benefits or at least lack of harm, supplemental vitamin E was associated with a small increased risk of lung cancer,” said Dr. Slatore.

When modeled continuously, the increased risk was equivalent to a seven percent rise for every 100 mg/day. “This risk translates into a 28 percent increased risk of lung cancer at a dose of 400 mg/day for ten years,” wrote Dr. Slatore. The increased risk was most prominent in current smokers.

The idea that vitamin supplements are healthy, or at the very least, do no harm, comes from the desire of many people to mimic the benefits of a healthy diet with a convenient pill says Tim Byers, M.D., M.P.H., of the University of Colorado School of Medicine in an editorial in the same issue of the journal. However, he points out, “fruits contain not only vitamins but also many hundreds of other phytochemical compounds whose functions are not well understood.”

The World Cancer Research Fund and the American Cancer Society recommend two servings of fruit each day, based on a study that previously found a 20 percent increase in cancer risk among people who ate the least amount of fruit. This recommendation “would likely lead to a reduced risk for lung cancer, as well as reduced risk of several other cancers and cardiovascular disease,” writes Dr. Byers. “However, any benefit to the population of smokers from increasing fruit intake to reduce cancer risk by 20 percent would be more than offset if even a small proportion of smokers decided to continue tobacco use in favor of such a diet change.”

These findings have broad public health implications, given the large population of current and former smokers and the widespread use of vitamin supplements. “Future studies may focus on other components of fruits and vegetables that may explain the decreased risk [of cancer] that

has been associated with fruits and vegetables," writes Dr. Slatore. "Meanwhile," he says, "our results should prompt clinicians to counsel patients that these supplements are unlikely to reduce the risk of lung cancer and may be detrimental."

Source: American Thoracic Society

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