

Lung cancer: Vitamin B supplements increase the risk

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A study shows that prolonged administration of vitamin B6 and B12 supplements is associated with increased risk for invasive lung cancer, particularly amongst smokers.



Previous studies had shown that ingestion of **supplements** containing elevated doses of vitamin A and of beta-carotene increased the risk of lung cancer in smokers. To determine whether vitamin B supplements could have similar, harmful effects in strong doses, a research group had 77,118 men and women between the ages of 50 and 76 record their consumption of vitamin supplements over a period of ten years¹. They then followed the subjects' medical records for about six years and noted diagnoses of invasive lung cancer in 808 individuals within this cohort.

Analysis of the results showed that taking strong doses of vitamins B6 and B12 was associated with an increased risk (by about 40%) of lung cancer in men (but not in women) and that this increase was particularly pronounced in smokers; within this subgroup, taking more than 20 mg of vitamin B6 daily for ten years tripled the risk of cancer compared to those who did not consume the supplements. The increased risk was even worse for vitamin B12, where smokers who took 55 micrograms daily had quadrupled their risk of developing lung cancer. These negative effects of vitamins B6 and B12 are actually due to the elevated doses which were consumed because no increase in risk was observed when vitamins were present in the weak doses normally found in multivitamin supplements.

FOODS RATHER THAN SUPPLEMENTS

These results confirm once more that supplements, taken in high doses, are not the solution to preventing cancer and that it is better to obtain physiological quantities of vitamins by eating properly. For adults, it is recommended to daily consume about 1.6 mg of vitamin B6 and 2.4 micrograms of vitamin B12, quantities which are easily attained by eating green leafy vegetables (B6 and B9) as well as fish and seafood (B12). These foods are also much more than just sources of vitamins because they contain fibre, omega-3 fatty acids and different phytochemical compounds which are anti-inflammatory and anti-cancerous, creating a climate that is inhospitable to the development and progression of cancer. In summary, with regards to preventing cancer, vitamin supplements are useless products which can sometimes prove to be dangerous, and smokers are particularly warned to avoid them.

At the Cellular Level

The group B vitamins such as B6, B9 (folate) and B12 are considered essential, which means that the human body is not itself capable of making them and thus must obtain them from food. This dietary source is crucial because these vitamins play key roles in a host of cellular processes, notably by participating in maintaining the integrity of DNA and in controlling the expression of genes. This is particularly important in terms of preventing cancer; since the transformation of a normal cell into a cancerous cell is associated with changes in the expression of certain genes, a disequilibrium in the levels of B vitamins could favour these changes and thus support the progression of the cancer.

Vitamin Supplements

Vitamin deficiencies are extremely rare in the West and the very large majority of the population easily obtains their recommended nutritional requirements for the various B vitamins. There are, however, exceptions which justify the use of supplements, such as taking folate during pregnancy to avoid anomalies in neural tube formation, as well as ingestion of vitamin B12 by vegetarians who do not consume any animal products (vitamin B12 is absent from plants).

On the other hand, many people think that it is better to “not take any chances” and therefore choose to consume vitamin supplements, often at quite significant dosages. This strategy has no scientific basis: a large number of studies, performed using huge segments of the population, have shown beyond any doubt that these supplements have no positive effect on health, whether regarding the development of cancer, cardiovascular diseases or life expectancy. Even worse, some studies have shown that the consumption of large quantities of certain vitamins (particularly vitamin E) is actually associated with a large increase in risks for both certain cancers (lung, prostate) and for premature death. As is often said, “Too much is as bad as too little,” and this is particularly true regarding vitamins taken in quantities far larger than are physiologically needed. It is for this reason that, in its most recent report, the World Cancer Research Fund recommended against using supplements to prevent cancer.



⁽¹⁾ Brasky, TM et al. Long-term, supplemental, one-carbon metabolism-related vitamin B use in relation to lung cancer risk in the Vitamins and Lifestyle (VITAL) cohort. *J. Clin. Oncol.* 2017;35:3440-3448.