

Jeffrey Bland Video Blog Transcript
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Well, this is the “in-the-news” section. You’ve probably heard recently that an article has been published in the *American Journal of Respiratory Critical Care Medicine* that relates to vitamin E and lung cancer. It is quite controversial because investigators at the University of Washington studied over 15,000 people who got lung cancer and their relative use of various vitamins. The title of this paper is “Long-term Use of Supplemental Multivitamins, Vitamin C, Vitamin E, and Folate Does Not Reduce the Risk of Lung Cancer.” In fact, in this particular paper, they go on to say that there was an increase in incidence in the people that were heavy smokers (or heavier smokers) when they consumed vitamin E at increasing doses. So there was kind of a dose-related increase in lung cancer, they said. This was reported on the wire service and in the news quite extensively.

Now, it is interesting when you look at this paper and actually delve into it in a little greater detail, because you find out that one of the most significant protections against lung cancer, based upon this study, was nothing other than obesity. In fact, underweight had a higher correlation with increase in lung cancer and overweight had a low incidence of cancer. They also found that there was virtually no connection between vitamin intake and lung cancer except in specific kinds of cancer and only in people that were smokers. At high intake of vitamins, that level of risk was what we might call marginally significant (P03 levels of significance), which most people would say is nominally significant. But it certainly doesn’t lead us to recognize the conclusion being that vitamin supplementation is, by average people, protection against lung cancer (at least in smokers), but rather suggests neutral-to-maybe-small increasing effect.

Now what can we say about this, historically? Historically, as you probably know, there are many other papers that have been published (randomized trials) on antioxidant supplementation and cancer, ABT Trials and the Finnish Smoker’s Trial being two of the most notable examples. They were unable to demonstrate any positive protection by antioxidant supplements as well. However, if you back to Ammani Prasad’s work, and

some work that was done early on in lung cancer, and cancer prevention and vitamin E, the data (at least from animal work) suggests that the form of vitamin E that is most related to protection is that of tocopherol succinate, which is not the most common form of vitamin E (normally it is tocopherol acetate that is the more common form that we purchase). So there seems to be something very significantly improved about the succinate derivative of vitamin E (tocopherol succinate) as it relates to chemoprevention (this is from the animal work and from early-stage cellular biology work). Obviously in the studies done on epidemiological historic use of vitamins we don't see people taking large amounts of tocopherol succinate. One might question whether there is the right form of vitamin E for adequate protection against smoking-induced lung cancer.

What I can say from all this, however, is that it once again fuels the fire to say that the answer to cancer isn't just taking a handful of antioxidant supplements each day. It is eating the right diet. It is reducing your relative risk of exposure. And it is making sure that this complete array of phytochemicals that are in the diet that help protect against injury are there along with the carotenoids and the tocopherols and the ascorbates—all of them together.

Now, does this throw out the possibility that ascorbic acid (vitamin C) in high dose might not be useful for cancer therapy? I think no. This is a different kind of trial, the work that I'm talking about. The work that appeared in this issue of the journal from Christopher Slatore and his group is really more related to the use of vitamin supplements in daily living to prevent cancer rather than the use of high-dose vitamin C for the treatment of existing cancer. That's a whole different story and topic for a different day. But certainly I think what we can say about this report that appeared recently is it is really no new news. It doesn't shed any new light. There is no really inherent enhanced risk. It just appears as if selected supplements have no major chemoprotective effects on lung cancer as it relates to the population that was studied, meaning lung cancer victims from smoking.