

Lycopene Supplementation and Disease Risk

Lung Cancer Critical Findings

Disease type	First Author	Study Title and Complete Citation	Date	Abstract	Study Type	G.Tom +, N, -	P.Tom +, N, -	F.Tom +, N, -	Lyco +, N, -	Other +, N, -
Cancer: lung	Satia JA	<p>Long-term use of beta-carotene, retinol, lycopene, and lutein supplements and lung cancer risk: results from the VITamins And Lifestyle (VITAL) study.</p> <p>Satia JA, Littman A, Slatore CG, Galanko JA, White E.</p> <p>Am J Epidemiol. 2009 Apr 1;169(7):815-28. Epub 2009 Feb 10.</p>	2009	<p>High-dose beta-carotene supplementation in high-risk persons has been linked to increased lung cancer risk in clinical trials; whether effects are similar in the general population is unclear. The authors examined associations of supplemental beta-carotene, retinol, vitamin A, lutein, and lycopene with lung cancer risk among participants, aged 50-76 years, in the VITamins And Lifestyle (VITAL) cohort Study in Washington State. In 2000-2002, eligible persons (n = 77,126) completed a 24-page baseline questionnaire, including detailed questions about supplement use (duration, frequency, dose) during the previous 10 years from multivitamins and individual supplements/mixtures. Incident lung cancers (n = 521) through December 2005 were identified by linkage to the Surveillance, Epidemiology, and End Results cancer registry. Longer duration of use of individual beta-carotene, retinol, and lutein supplements (but not total 10-year average dose) was associated with statistically significantly elevated risk of total lung cancer and histologic cell types; for example, hazard ratio = 2.02, 95% confidence interval: 1.28, 3.17 for individual supplemental lutein with total lung cancer and hazard ratio = 3.22, 95% confidence interval: 1.29, 8.07 for individual beta-carotene with small-cell lung cancer for >4 years versus no use. There was little evidence for effect modification by gender or smoking status. Long-term use of individual beta-carotene, retinol, and lutein supplements should not be recommended for lung cancer prevention, particularly among smokers.</p>	PC				N	
Cancer: lung	Svennevig K.	<p>Re: "Long-term use of beta-carotene, retinol, lycopene, and lutein supplements and lung cancer risk: results from the VITamins and Lifestyle (VITAL) Study"</p> <p>Svennevig K.</p> <p>Am J Epidemiol. 2009 Aug 1;170(3):401-2. Epub 2009 Jul 15.</p>	2009	<p>EXCERPT: In their recent article, Satia et al. (1) used data from the VITamins And Lifestyle (VITAL) Study to draw some conclusions about an association between intake of dietary supplements and lung cancer risk. A previous VITAL Study publication concluded that multivitamin use does not increase lung cancer risk (2). The current study focused on long-term use of individual supplements at high doses. The participants using individual lutein supplements were categorized as noncancer cases (n = 1,606) and lung cancer cases (n = 20). Relatively infrequent lutein supplement use by lung cancer cases made it impossible to divide the group with regard to dosage or duration of use. Satia et al. concluded that long-term use of high doses of individual β-carotene, retinol, and lutein supplements may be harmful in terms of lung cancer risk.</p>	Commentary					