

Study shows that antioxidants may reduce lung cancer risk

March 8 2017, by Gisèle Bolduc



An epidemiological study published in *Frontiers in Oncology* suggests that a diet high in carotenoids and vitamin C may protect against lung cancer. The study authors found that vitamin C appears to reduce the risk of lung cancer in heavy smokers while beta-carotene, alpha-carotene, beta-cryptoxanthin, and lycopene play the same role in male heavy smokers.

Some of these antioxidants were also associated with a lower lung cancer risk in female moderate smokers and nonsmokers. "Our results suggest that vitamin C protects against lung cancer in women who have never smoked, something that to our knowledge has not been reported previously," stated postgraduate fellow Martine Shareck, lead author of the study.

Data from a case-control study of lung cancer was used in the investigation, one of the few to examine the role of antioxidants like carotenoids and vitamin C by [smoking](#) intensity. It is the first study to consider both smoking duration and time since quitting, two key smoking history factors for lung cancer.

"For the three most common tumour subtypes, we observed that high intakes of beta-carotene, alpha-carotene, beta-cryptoxanthin, lycopene, and vitamin C were associated with a reduced risk of [squamous cell carcinoma](#), while high intakes of beta-carotene and alpha-carotene lowered the risk of adenocarcinoma," explained professor and study co-author Marie-Élise Parent of the INRS-Institut Armand-Frappier Research Centre. "Both medium and high intakes of beta-cryptoxanthin and lycopene reduced the risk of small cell carcinoma."

Cigarette smoking is the foremost risk factor for lung cancer, the leading cause of cancer mortality worldwide. Yet diet can influence the occurrence of this cancer. In light of the study results, the authors conclude it is desirable to promote consumption of fruits and vegetables rich in carotenoids and vitamin C to reduce [lung cancer](#) risk in nonsmokers and smokers, including [heavy smokers](#).

More information: Martine Shareck et al, Inverse Association between Dietary Intake of Selected Carotenoids and Vitamin C and Risk of Lung Cancer, *Frontiers in Oncology* (2017). [DOI: 10.3389/fonc.2017.00023](#)

Provided by Institut national de la recherche scientifique - INRS

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