High levels of carotenoids backed for breast cancer risk reduction

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Women with higher circulating levels carotenoids are at a significantly lower risk of breast cancer, according to new research.

The study – published in the *Journal of the National Cancer Institute* – analysed pooled data from eight clinical trials assessing the association between carotenoids and breast cancer risk.

Led by Heather Eliassen from Brigham & Women's Hospital and Harvard Medical School, USA, the research team analysed the data – containing data from around seven thousand people – finding that there were statistically significantly inverse associations between circulating levels of individual and total carotenoids and breast cancer risk, with a stronger finding in estrogen receptor–negative (ER-) breast cancers.

"We conducted a pooled analysis of eight cohort studies comprising more than 80% of the world's published prospective data on plasma or serum carotenoids and breast cancer, including 3055 case subjects and 3956 matched control subjects," wrote Eliassen and her colleagues.

"This comprehensive prospective analysis suggests women with higher circulating levels of alpha-carotene, beta-carotene, lutein+zeaxanthin, lycopene, and total carotenoids may be at reduced risk of breast cancer," they said.

"The statistically significant positive associations between circulating carotenoids and risk we observed among overweight and obese women warrant further study," said Eliassen and her team, who also noted that additional work is needed to determine if carotenoids are the causal factor in the observed associations.

"Given the possibility that another bioactive compound is responsible for the observed associations, as well as the uncertainty about the specific carotenoid(s) that are important, use of specific carotenoid supplements is not advised and may indeed be harmful among smokers," they concluded.

Carotenoid benefits

Carotenoids – found in many fruits and vegetables – are natural pigments ranging from yellow to red that have also been suggested to possess many health benefits, including anti-cancer properties.