



Breaking News on Food & Beverage Development - North America

Antioxidant-rich fruit, veg may prevent lymph cancers

By Stephen Daniells, 21-Aug-2009

Increased intakes of antioxidant-rich fruit and vegetables may reduce the risk of developing non-Hodgkin lymphoma, says a new study from the Mayo Clinic

Intakes of vitamin C, alpha-carotene, and proanthocyanidins were associated with reductions in the risk of non-Hodgkin lymphoma of 22, 29, and 30 percent, respectively, according to findings published in the *International Journal of Cancer*.

From a food perspective the researchers, led by Dr James Cerhan, report that yellow/ orange and cruciferous vegetables, including broccoli, were found to confer the greatest risk reductions.

However, despite identifying individual nutrients, Dr Cerhan and his co-workers noted that the benefits would most likely be from dietary sources of antioxidants, and not from supplements.

"Most studies have not shown an association with supplemental intake of antioxidant nutrients, suggesting that any association is likely to be mediated through foods," they wrote.

"This has mechanistic implications (potential synergies between antioxidants; other anti-carcinogenic compounds in these foods) and also suggests that prevention approaches will likely need to be targeted towards foods and food groups and not individual nutrients, particularly taken as supplements."

Non-Hodgkin Lymphoma (NHL) is a cancer that starts in the lymphatic system and encompasses about 29 different forms of lymphoma. According to the American Cancer Society, over 50,000 new cases are diagnosed in the US every year.

Study details

In collaboration with scientists from the University of Minnesota, the Mayo Clinic researchers examined data from 35,159 Iowa women aged between 55 and 69 participating in the Iowa women's health study. Diets were analyzed using a validated semi-quantitative food frequency questionnaire.

Over 20 years of follow-up, a total of 415 cases of non-Hodgkin lymphoma were documented. Intakes of 204 or more servings per month (about 7 servings per day) of all fruit and vegetables were associated with a 31 percent reduction in NHL risk, compared to intakes of less than 104 servings per month.

High intakes of yellow/orange vegetables (14 or more servings of per month) were associated with a risk reduction of 28 percent, as were four or more broccoli servings per month, compared to people who are no broccoli.

Considering the nutrients, in addition to the risk reductions associated with increased intakes of vitamin C, alpha-carotene, and proanthocyanidins, increased intakes of manganese from dietary sources was also associated with a risk reduction of about 40 per cent.

"To our knowledge, an inverse association with manganese has not been previously evaluated for NHL, and thus this will require replication," they wrote. *"Foods rich in manganese include whole grains, nuts, and leafy vegetables. However, we observed no clear association with foods that are major sources of manganese."*

Supplements have no effect

Cerhan and his co-workers reported no links between multivitamin use, or supplemental intake of vitamins C, E, selenium, zinc, copper or manganese.

"These results support a role for vegetables and perhaps fruits, and associated antioxidants from food sources, as protective factors against the development of NHL and follicular lymphoma in particular," they concluded.

Source: *International Journal of Cancer*

Accepted Article, available online

"Antioxidant intake from fruits, vegetables and other sources and risk of non-hodgkin lymphoma: The Iowa women's

health study"

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