

Diet and Cancer

7 May 2008

(1) Allium Vegetables & Prostate Cancer

High consumption of allium vegetables (garlic, scallions/spring onions, chives, leeks etc.) appears to reduce the risk of prostate cancer according to a study of 238 prostate cancer subjects and 471 controls in China who were interviewed on their intake of 122 food items. Garlic and spring onions appeared to offer the greatest benefits. Allium vegetables have been shown in the laboratory to have anti-tumour effects

(J Natl Cancer Inst. 2002;94(21):1648-1651)

(2) Folic Acid & Colorectal Cancer Risks

A diet rich in folic acid may lower the risk for colorectal cancer, according to researchers in Italy. In a study of 1,953 patients with colorectal cancer and more than 4,000 disease-free patients, researchers found an association between the amount of folic acid in the diet and the risk of cancer. Those with colorectal cancer tended to have diets containing less folic acid and the essential amino-acid methionine, and were heavier drinkers, than patients who were cancer free. Light drinking meant one glass of wine daily, while heavy drinking was equivalent to at least two 12oz beers a day. Methionine levels were studied because the amino acid plays a key role in regulating the availability of folic acid in the body. Previous studies have shown that high levels of methionine reduce colon cancer risk in people with a family history of the disease. Meat, fish, beans, eggs, garlic and sunflower seeds are all natural sources of methionine. Good sources of folic acid are leafy green vegetables, whole grains, and liver, as well as orange juice, beans and peas. The incidence of the disease was 40% higher for patients who were heavy drinkers and had diets deficient in folic acid and methionine.

(International Journal of Cancer 2002;102:545-547)

(3) Burning Hot Curries

Cancer researchers at the University of Rochester Medical Center have found that curcumin, a substance in curry long believed to have health benefits, seems to protect skin during radiation therapy. Curcumin, the substance that gives turmeric its yellow colour, is a natural anti-inflammatory compound and scientists have already shown that it can suppress tumour blood vessel growth. This process, called anti-angiogenesis, can strangle tumours. Now researchers have discovered through a study of mice that curcumin may protect skin from the burns and blisters that often occur during radiation treatment. The

team of researchers studied the impact of curcumin on skin protection in mice given radiation therapy. The difference in skin damage was dramatically less where curcumin was used. As a result it is suggested that cancer patients could consider eating curries during their radiation treatment.

(4) Soy & Stomach Cancer

Japanese researchers have found that men who consume a diet rich in non-fermented soy products such as tofu, soybeans and soy milk (average 112g per day), have half the risk of dying from stomach cancer compared to men who consumed 37g a day on average. The research also found that men with a high rice intake had an 81% higher mortality from stomach cancer than did men with a low intake.

(British Journal of Cancer, Vol. 87, July 1, 2002, 31-36)

(5) Dietary Fibre & Bowel Cancer

A study of the dietary habits of more than half a million Europeans suggests that an approximate doubling of total dietary fibre intake could reduce the risk of colorectal cancer by 40%. The study was funded by a consortium including Cancer Research UK, the Medical Research Council (MRC) and the European Commission. The 519,978 individuals studied, who are taking part in the EPIC study recruited from ten European countries, completed a dietary questionnaire in 1992-98 and were followed up for cancer incidence. Those who ate the most fibre rich food had the lowest incidence of bowel cancer, while those with least fibre in their diets had the most cases of the disease. A fibre rich diet was defined as 35g a day. That equates to seven portions of fruit and vegetables per day plus five slices of wholemeal bread. The research found that cereals were the main source of fibre in Netherlands, Germany, Sweden and Denmark, vegetables in France and the UK, and fruit in Italy and Spain. Although a separate team from US National Cancer Institute, who examined 45,000 women over three decades, failed to produce similar evidence, the European team has suggested that studies which do not show a protective effect from eating fibre may be sampling people whose fibre intake is not sufficiently high to produce a positive effect.

(Lancet 2003; 361: 1496-501)

(6) Green Tea prevents Ovarian Cancer

In an Australian study of 254 Chinese patients with epithelial ovarian cancer and 652 healthy controls, it was found that the risk of ovarian cancer declined both with the more tea they drank and the length of time they had been drinking tea, with those drinking tea daily having only 39% of the risk (compared to non tea drinkers) and those who had drunk tea for more than 30 years having a 23% risk.

(Cancer Epidemiol Biomarkers Prev 2002; 11: 713-18)

(7) Tomatoes & Prostate Cancer

Analysis of the Health Professionals Follow-up Study (HPFS) involving over 47,000 male dentists, optometrists, osteopaths, podiatrists, pharmacists, and veterinarians appears to show that consumption of tomato products reduces the risk of developing prostate cancer, possibly due to the antioxidant properties of lycopene, a carotenoid found in tomatoes. Tomato sauce appeared to be the most effective form, lowering relative risk of prostate cancer to 0.77. (Journal of the National Cancer Institute, 2002; 94: 391-398). Separate research from Cornell University shows that cooking tomatoes makes them healthier by substantially raising the levels of lycopene, even though vitamin C is lost in the cooking process.

(J. Agric. Food Chem., 50 (10), 3010 -3014, 2002)

(8) Prostate Cancer & Diet

A fat-laden diet and high calcium consumption are both well-known suspected risk factors for prostate cancer. However, new findings from the Fred Hutchinson Cancer Research Center suggest that fat and calcium themselves may not cause prostate cancer, as previously thought, but instead may fuel its progression from localised to advanced disease. While high intake of dietary fat and calcium is associated with an increased risk of clinically significant, advanced prostate cancer, it has no apparent impact on risk of early-stage disease. Saturated fats (found in meat and dairy fat) and monounsaturated fats (found in certain oils, such as olive and peanut) were associated with an increased risk of advanced prostate cancer. Polyunsaturated fats (found in certain oils, such as canola) were not. Consumption of omega-3 fatty acids (found in oily fish such as mackerel) also did not have an impact on overall prostate-cancer risk, contrary to experimental studies in cell cultures that have suggested there may be a protective effect.

In the study of 1200 men aged between 40 and 64, researchers also found the risk of advanced prostate cancer was 112% higher - more than double - among men who consumed the most calcium (more than 1,200 mg per day, equivalent to four or more glasses of milk) as compared to those who got the least (fewer than 500 mg). It didn't matter whether the calcium came from food or supplements. Total calories consumed was significantly associated with risk for both localised and advanced disease. Men who ingested the most calories each day more than doubled their risk of localised prostate cancer (a 115% increased risk) and nearly doubled their risk of advanced prostate cancer (a 96% increased risk) compared to men who ate the fewest. The researchers conclude that men who have been diagnosed with early-stage prostate cancer should change to a diet low in fat and calories in order to reduce the progression or recurrence of the cancer.

(Cancer Epidemiology, Biomarkers and Prevention, American Association for Cancer Research. 2002/8/6)

(9) Pomegranate Juice slows the progress of Prostate Cancer

Drinking a daily eight ounce (0.24 litre) glass of pomegranate juice can significantly slow the progress of prostate cancer, a study suggests. Researchers say the effect may be so large that it may help older men outlive the disease. Pomegranates contain a cocktail of chemicals which minimize cell damage, and potentially kill off cancer cells.

The study, by the University of California in Los Angeles, appears in the journal *Clinical Cancer Research*. Previous research had indicated that pomegranate juice could have a beneficial effect on prostate cancer in tests on mice. But the latest study has shown that humans can potentially benefit too. The UCLA team focused on 50 men who had undergone surgery or radiation treatment for prostate cancer - but had shown signs that the disease was rapidly returning. The presence of prostate cancer cells is monitored by measuring levels of a chemical they produce called prostate-specific antigen (PSA). The researchers measured how long it took for PSA levels to double in individual patients - a short doubling time indicates that the cancer is progressing quickly. The average doubling time is about 15 months, but in patients who drank pomegranate juice this increased to an average of 54 months. Some men on the study continue to show suppressed PSA levels after more than three years, even though they are receiving no treatment apart from drinking pomegranate juice.

Combination effect Lead researcher Dr Allan Pantuck said: "I was surprised when I saw such an improvement in PSA numbers". In older men 65 to 70 who have been treated for prostate cancer, we can give them pomegranate juice and it may be possible for them to outlive their risk of dying from their cancer.

"We are hoping we may be able to prevent or delay the need for other therapies usually used in this population such as hormone treatment or chemotherapy, both of which bring with them harmful side effects."

Pomegranate juice is known to have anti-inflammatory effects and high levels of antioxidants, which are believed to protect the body from damage by particles called free radicals. It also contains isoflavones which are believed to play a role in cancer cell death. Dr Pantuck said: "There are many substances in pomegranate juice that may be prompting this response. "We don't know if it's one magic bullet or the combination of everything we know is in this juice. "My guess is that it's probably a combination of elements, rather than a single component."

Chris Hiley, of the Prostate Cancer Charity, said more work was needed to firm up the findings. She said: "It may well turn out that pomegranate juice has a wider application than just delaying disease progression in men with prostate cancer who have already been treated. "It might also help as a reassuring low-key intervention for men whose cancer is being monitored rather than treated." Dr Laura-Jane Armstrong, of the charity Cancer Research UK, said: "If the results of this study can be confirmed, it could have important implications for prostate cancer patients, especially by delaying the use of other more aggressive treatments that can have debilitating side effects."

(Taken from BBC website)

(10) Citrus Fruits & Cancer

Pectin, found in highest concentration in the meat and segment membrane of citrus fruits, appears to be able to prevent prostate and other cancers by acting as a mediator in cell communication - a factor known to reduce the likelihood of abnormal cell growth. Sour fruits such as lemon appear to have the greatest effect

(J. Agric. Food Chem., 49 (6), 3051 -3057, 2001)

(11) Carrots, Tomatoes & Lung Cancer

Eating fruits and vegetables containing carotenoids may reduce the risk of lung cancer, according to researchers at Harvard School of Public Health and Brigham and Women's Hospital, Boston. In an analysis of answers to questionnaires about their diets from 124,207 men and women at the start of a pair of ongoing studies and ten years (for men) and 12 years (for women) later, those who reported eating the greatest amount of lycopene, found in tomatoes, and alpha-carotene, found in carrots, had a lower risk of being diagnosed with lung cancer. Further, the risk was significantly lower among those who reported eating a variety of carotenoids. Study participants who never smoked and who ate the most alpha-carotene had a 63% lower incidence of lung cancer.

(American Journal of Clinical Nutrition, October 2000; 72:990-997)

(12) Medicinal Mushrooms

According to research conducted by Cancer Research UK, oriental fungi such as shiitake, enoke and oyster mushrooms contain compounds which could have an effect in reducing the side effects of radiotherapy and chemotherapy and can significantly improve the quality of life for patients with cancer. However, the large flat mushrooms and button varieties commonly eaten in the UK do not seem to share these qualities.

(Cancer Research UK 2002)