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In This Issue

- Healthy Low-Fat Diets 1
- Tea: Green, Black, and Red 2
- Caffeine-Free Red Tea 2
- Hot Pepper and Cancer 3
- Ask Dr. J: Arthritis and Food 3
- References 3
- In The Health News 4
- Diet and Disease 4
- Millet Apricot-Date Cake 4

Dear Friends,

Not so fast! Wait before believing news about diets. In commenting on scientific data regarding health care, and especially nutrition and alternative medicine, the news media is apt to jump to conclusions, and false ones at that. This can almost be forgiven when even the researchers who do the studies and the editorialists of the journals that publish them make similar erroneous claims. I wonder if the journals benefit from sensational reporting.

Recently, this was evident in the widespread reporting of several studies of diet that “clearly” showed that no benefits in terms of reduction of heart disease or cancer could be achieved by following a low-fat diet. The only problem with the studies and the hoopla surrounding them was that they did not actually study low-fat diets! What they really studied was a comparison of a high-fat diet with a very-high-fat diet. Maybe it is just that people (including the news reporters) love to hear good things about their bad habits.

These studies were derived from the Women’s Health Initiative (WHI), in which 48,835 post-menopausal women participants were asked to stay on the same diet they were on, which was about 37 percent fat (the level in the standard American diet, or SAD diet), or follow a suggested diet containing only 20 percent fat.

This would have been reasonable enough (although even lower fat diets have been shown to be even more helpful), but the group on the lower fat wing of the study were not successful in staying on their suggested diets, and only achieved a reduction to an average 29 percent fat, which is still higher than levels shown to be healthful in other studies. You can hardly expect people to benefit from a diet when they do not follow it. The intervention group was supposed to increase fruits and vegetables to five, and grains to six servings, but they barely increased them.

The Mediterranean diet is relatively high fat, but heart disease is much lower than found in countries on diets with similar fat intake, but the wrong kinds of fat. The olive oil in the Mediterranean diet is much healthier than the animal fats, processed oils, and margarines consumed in the United States and some other industrialized countries. Still, the rate of heart disease seen in populations on the Mediterranean diet is higher than in Japan, where the diet is lower in fat (although this is sadly changing in Japan and other countries as they begin to follow the Western diet and incorporate more processed foods and junk, and yes, more fat).

Some good news about low-fat diets did come out of these studies, but this was barely reported. Women who started with the highest fat diets but lowered fat intake the most had the greatest reduction of breast cancer risk. Also, women with the lowest fat intake had the lowest risk of heart disease. Colon polyps that precede cancer were reduced with the lowest fat intake. The real lesson of these studies is that low-fat diets are healthful, but you would never know it by reading the headlines.

Tea: Green, Black, and Red

Aside from non-commercial water, tea is the most consumed beverage in the world (60 billion gallons in 1999), and it is far ahead of the rest, including carbonated soft drinks (which have recently surpassed milk), bottled water, beer, and coffee. The tea plant, *Camellia sinensis*, provides the leaves that have been consumed as tea for nearly 5000 years, originally in China.

Green tea leaves are steamed before being dried, while black tea is the result of fully oxidizing the tea leaves. The resulting flavonoid content of the two differs in that green tea has 4-10 times as much catechin as black tea, as well as other differences in flavonoid content. Green tea contains theanine, a relaxing amino acid that also has benefits in cancer treatment.

Tea contains a number of healthful components, including catechins (a group of polyphenols including epigallocatechin gallate, or EGCG), and flavonols. These act as antioxidants, protecting LDL cholesterol from oxidation and in animal studies provide some protection from cancer metastases. When fed to mice, these substances both delay the onset and reduce the total number of tumors. They also induce programmed cell death in cancer cells and inhibit proliferation.

Men with prostate cancer precursor cells (high-grade intra-epithelial neoplasia) have a 30 percent chance of developing prostate cancer within one year. A double-blind study of 60 men with these cells showed that administration of 600 mg daily of green tea catechins for one year reduced the development of prostate cancer. Only one subject of the 30 in the treatment group developed prostate cancer, while nine men in the placebo group developed the disease. In men who also had symptoms of prostate enlargement, treatment significantly reduced their symptoms.

In animal studies, both green and black teas have anti-inflammatory effects. One report showed inhibition of inflammation and reduction signs of polyarthritis in a laboratory model of the disease. Other studies show that black tea can reduce cardiovascular disease and improve endothelial function, possibly due to some of the flavonoids rather than the catechins. Healthy endothelial function lowers cardiovascular risk, partly by lowering blood pressure.

EGCG also displays anti-inflammatory effects in the brain, and exerts some neuroprotective properties in animal models of brain auto-immune disorders similar to MS. Administered orally, EGCG reduced the condition when given at the onset or later in the course of the disease and blocked free-radical neuronal damage.

In cell cultures, EGCG and tea theaflavins also inhibit viral infections. These protect from both respiratory viruses and HIV, blocking both viral replication and cell invasion through a variety of mechanisms.

One problem with drinking tea is the caffeine content. Coffee may contain from 30-50 mg/oz (espresso) to 135 mg per 8-ounce cup (12 oz. is a more realistic serving size, and might contain 200 mg or more). Tea has far less, but still significant amounts. A 12-oz. cup of black tea contains about 60-100 mg of caffeine, and green tea from 40-60 mg. These are significant doses of this central nervous system stimulant and diuretic, and may cause side effects in many people. Decaffeinated teas are available, but may lose protective compounds in processing. Supplements usually have no caffeine. Typical supplements of green tea contain 200 mg of standardized extract.

Caffeine-Free Red Tea

Red tea is not true tea, as it comes from a different plant altogether. It is the pine-needle-like leaf of a South African red bush (rooibos, or *Aspalathus linearis*) and is naturally free of caffeine. The leaves are usually fermented to a rich reddish-brown color and then dried, and the "tea" (or herbal infusion) retains the same color. Unfermented dried leaves are also available (they are a yellow-beige color). Rooibos does contain many antioxidant flavonoids and polyphenols, similar to both green and black teas, and they also contain healthful polysaccharides.

Laboratory and animal studies confirm many of the same benefits as are found with green and black teas, but few human studies are published. In one lab study, polysaccharides in rooibos inhibited HIV activity. Rooibos extracts suppress skin cancer cells in mice and protect against radiation damage, and peroxidation of brain lipids, which might block the development of degenerative brain disorders. It is good that rooibos is a very tasty tea, as supplements are not available.

Hot Pepper and Cancer

Capsaicin is the substance in hot peppers that makes them hot. Recent studies suggest that capsaicin might help in prevention and treatment of prostate and gastric cancers. In laboratory cell studies, capsaicin inhibits the proliferation of prostate cancer cells, both those that are sensitive to androgens and those that are not. It also induces apoptosis, or programmed cell death, in the cancer cells. (Mori A, et al., Capsaicin, a Component of Red Peppers, Inhibits the Growth of Androgen-Independent, p53 Mutant Prostate Cancer Cells. *Cancer Res.* 2006 Mar 15;66(6):3222-9.)

The same researchers reported in that study on their treatment of mice grafted with prostate cancer cells. When the mice were treated orally with capsaicin, tumor growth as measured by size was reduced by 70 percent, and as measured by weight by 40 percent. Overall, capsaicin had a number of beneficial effects on tumor promotion, hormone sensitivity, PSA production and activity, and other tumor growth factors.

Another study showed that capsaicin induced cell death in gastric cancer cells under laboratory conditions. Treatment of the cell lines resulted in an increase in apoptosis and fragmentation of DNA. Evidence of cell death was directly correlated with the dose of capsaicin. (Lo YC, et al., Capsaicin-induced cell death in a human gastric adenocarcinoma cell line. *World J Gastroenterol.* 2005 Oct 28;11(40):6254-7.)

Both of these studies are strongly suggestive that hot peppers offer cancer protection. Capsaicin is also helpful for inflammation, heart disease, and arthritis pain relief (topical application), as well as protection of the gastric mucosa from ulcers.

Ask Dr. J

Q. I have arthritis. What foods should I avoid to prevent inflammation? I take fish oil, calcium, glucosamine, vitamin C, and a multi daily.

JS, via email

A. Some people have suggested that foods from the nightshade family, such as potatoes, tomatoes, peppers, and eggplants might contribute to arthritis, but I have not found this to be true for most patients. However, some foods might increase inflammation, and others might reduce it.

Foods that contain land animal fat might increase inflammation because of the arachidonic acid that they contain (this is a non-essential fatty acid found in meat and poultry, as well as milk,

and is a precursor of prostaglandin E2, which promotes inflammation). Trans fatty acids, from hydrogenated vegetable oils such as margarine and shortening, also increase inflammation. A diet high in fruits and vegetables is associated with reduced inflammation, but it is not clear which specific components are responsible.

The fish oil that you take and the vitamin C may both help to reduce inflammation and reduce arthritis pain. Olive oil and gamma-linolenic acid (from evening primrose or borage oils) enhance the anti-inflammatory effect of fish oil. Vitamin E (800-1200 IU daily) also lowers the markers of inflammation, such as CRP, by up to 50 percent.

A number of supplements also help reduce the inflammation or pain associated with arthritis. Curcumin, a turmeric extract (300-600 mg), ginger (250-750 mg), and boswellia (400-600 mg) can all help with arthritis. S-adenosyl methionine (SAME) is beneficial in both osteoarthritis and rheumatoid arthritis (200-600 mg). Some combination of a healthy diet and these supplements should be helpful.

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Low Fat Diets

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Tea: Green, Black, and Red

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In the Health News

- A combination of standardized extracts of St. John's wort (1 mg hypericin) and black cohosh (4 mg triterpene glycosides) helps women with menopausal symptoms, including hot flashes and depression. In a placebo-controlled study of 301 symptomatic menopausal women for 4 months, the herbal combination reduced symptoms of depression by 42 percent and menopausal symptoms were cut in half. (Uebelhack R, et al., Black cohosh and St. John's wort for climacteric complaints: a randomized trial. *Obstet Gynecol.* 2006 Feb;107(2 Pt 1):247-55.) The subjects had no side effects and tolerated the treatment well.
- Elderly people require 20 percent more energy and oxygen to perform the same activity as younger adults, but this appears not to be due to age itself, but to lack of training from sedentary lifestyles. When elderly people were put on a 6-month exercise training program, with jogging, bicycling, or walking, and stretching, for 90 minutes 3 times a week, their capacity improved 30 percent. (Woo JS, et al., The influence of age, gender, and training on exercise efficiency. *J Am Coll Cardiol.* 2006 Mar 7;47(5):1049-57.) Training completely reversed the age-associated decline in exercise efficiency.

Diet and Disease

- Glycemic index or glycemic load (the effect of a food on blood sugar) are not good guides to dietary choices. In 813 subjects over five years, GI or GL were not associated with changes in blood sugar indicators. The glycemic effect of a food is different in real-life conditions than during testing, depending on when it is eaten, with what else, how it is cooked, and other variables (Mayer-Davis EJ, et al., Towards understanding of glycaemic index and glycaemic load...*Br J Nutr.* 2006 Feb;95(2):397-405). The best course is to choose high-fiber foods that are low in fat, including lots of fruits, vegetables, whole grains, and beans. This can include potatoes.

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Millet Apricot-Date Cake

Put a cup of millet, 3 cups of water, and 1/2 tsp of salt (optional) in a saucepan, bring to a boil, then turn it off to cool while in a large bowl you mix 1/4 cup of chopped organic dried apricots, 1/4 cup of chopped dates, 1/2 cup of organic raisins, 1/4-1/2 cup of shredded coconut, 1 tsp of cinnamon, and 1/2-1 tsp of freshly ground nutmeg. Add 1/4 cup of maple syrup and/or honey and 1/2-1 Tbsp of vanilla extract. You can add 2-3 mashed bananas at this point as an option. Blend the watery millet in a food processor until creamy (about a minute), add this to the other ingredients in the bowl, and mix well. Place the mix in an oiled loaf pan and bake at 350 for about 75 minutes (up to 90 minutes if you add the bananas). Let it cool, as it will set during this time. Remove it from the loaf pan and cut slices to serve with fresh or frozen berries (I defrost frozen organic blueberries and strawberries).

From November to May, I see patients in New Smyrna Beach, Florida. For appointments during this time, call **386-409-7747**. I also do phone consults.

From June to October, I see patients in Arlington, MA, and Amherst, NH. Call **603-878-2256**.

My newest book is *The User's Guide to Heart Healthy Supplements*. You can order it from **QCI Nutritionals** at **888-922-4848**. *Dr. Janson's New Vitamin Revolution* and my other books are also available at my website, from QCI Nutritionals, or health food stores. You can visit the QCI Nutritionals website at **www.qcinutritionals.com** for quality supplements at reasonable prices.

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