

Cancer fighter is found in broccoli

WASHINGTON (AP) - Remember when your mother told you to eat broccoli? Scientists say they've proved mother knows best.

Dr. Paul Talalay of Johns Hopkins University School of Medicine said in a paper published today that studies in his lab show broccoli is rich in sulforaphane, a chemical that works as a powerful anti-cancer compound in laboratory mice.

Studies have shown that a diet rich in cruciferous vegetables such as broccoli, Brussels sprouts, cabbage and cauliflower, can lower the risk of cancer of the bowel, stomach and breast. How those vegetables caused the effect wasn't clear.

Now, Dr. Talalay said, it appears that at least one anti-cancer ingredient in the vegetables is sulforaphane. It works by causing cells to expel cancer-causing toxins.

He said this is the first time a high-potency compound has been isolated from vegetables and has been shown to accelerate the detoxification process in cells.

Dr. Talalay said his team isolated sulforaphane from broccoli, then fed it to a group of mice. When cells in the mice were examined after five days, the scientists found that the chemical had triggered enzymes known to neutralize carcinogens within cells.

Research, Dr. Talalay said, will shift to the long-term cancer-fighting effects of the chemical. "Our prediction is that sulforaphane will block tumor formation in animals and presumably in man," he said.

Nutrition and medical scientists are trying to find ways to prevent cancer through a diet rich in foods that have anti-tumor properties.

In earlier studies, Dr. Talalay said, he and others have shown that certain proteins in cells, called Phase I enzymes, can take innocent chemicals and turn them into carcinogens, or compounds that can give rise to cancer by disrupting the genetic pattern in cells.

Other proteins, called Phase 2 enzymes, he said, tend to block formation of carcinogens.

Sulforaphane, he said, is a potent activator of Phase 2 enzymes.

"There is mounting evidence that if you are able to raise the Phase 2 enzymes, this will divert

the carcinogenic

compounds from damaging the [genes]," Dr. Talalay said. "By tilting this balance toward Phase 2 enzymes, we can achieve protection from cancer."

The Hopkins researchers will conduct tests to determine how much broccoli must be consumed to establish an effective anti-cancer level of sulforaphane in cells.

Over a decade of research has been done on cruciferous vegetables and there are large databases that confirm that cruciferous vegetables substantially reduce the risk of disease, specifically cancer. Studies show substances in these vegetables that have anti-cancer properties which cause the body to speed up production of enzymes, therefore being capable of neutralizing cancer agents. The studies also show these prevent damage to our DNA and slow the aging process. In women, metabolic processes are regulated which eliminate the bad (and maintain the good) estrogen, therefore substantially reduce the risk of breast cancer. Shortly after the NCI study was released, John Hopkins School of Medicine revealed similar studies.

Due to these study results, the National Cancer Institute, the American Cancer Society, the National Academy of Sciences, the U.S. Department of Agriculture, John Hopkins School of Medicine and the FDA have all reached out to inform the public of the anti-cancer compounds found in cruciferous vegetables, and are advocating the daily consumption of these vegetables. The average American has been eating only 4 and one half pounds of these vegetables per year!

Menopause Diet (Woodland Health Series)

This is a first from Dr. Allan Spreen. This 32-page booklet clearly explains the parallel between menopause management and one's diet. He clearly defines supplement usage, hormones, exercise along with a clear-cut weight loss plan and dietary rules. Dr. Spreen clearly outlines the most effective plan for women dealing with menopause that not only experience the

hormonal change, but the physical change that may occur with a woman's body. He details a weight-loss plan and dietary guidelines of foods to eat and foods to avoid. Dr. Allan Spreen is medical doctor as well as a clinical nutritionist. This book is great for anyone that deals with menopause or any health food store. This booklet is now available from Woodland Publishing. [TH](#)

Both booklets available from Woodland Publishing.

Metabolic Boosters

Just what is metabolism, how does it work?
And how can I give mine a boost?

Metabolism is a measure of the amount of fuel, or energy your body burns each day. This energy level is measured in calories. In short, your metabolism is the number of calories your body burns each day.

How is that number determined?

Well, several factors are involved. You can think of metabolism as a puzzle. Everyone starts out with one basic piece, your basal metabolic rate. This is basically the number of calories your body would burn if you stayed in bed all day and did nothing. For most of us, this number is at least 1,000 calories. Those calories are used for basic bodily functions, such as breathing, body temperature regulation and circulation.

So, at minimum, all of us need about 1,000 calories per day for basic bodily functions.

Another large piece of the puzzle is body composition. Those with a higher percentage of lean tissue, or muscle mass, have higher calorie needs. In other words, the more muscular you are, the more calories your body burns each day, even at rest.

Activity level is another big piece of the puzzle. The more active we are, the more calories our bodies require each day. For example, a person who runs 2 miles per day will burn more energy, or calories than someone who does not exercise.

Also, someone who uses stairs and takes short walks throughout the day will burn more calories than someone who sits down all day.

To improve your metabolism, a combination of healthy eating and physical activity are recommended. First, visit an exercise professional for advice about weight training and aerobic activity. Look for a certified personal trainer and/or a professional with a degree in kinesiology, exercise physiology, or exercise science.

The first general nutrition guideline is to eat breakfast. Eating breakfast jump starts your body, providing the fuel your body needs to get moving.

Studies show that those who consistently eat breakfast burn more calories per day than those who do not.

Do not skip meals. Instead, choose small, frequent meals. Doing so helps your metabolism to remain high throughout the day. Consume the majority of your calories during the day when you are most active.

Drink plenty of water, at least 8 cups or 64 ounces.

Choose high fiber foods, such as vegetables, fruits, whole grains, beans and legumes.

Finally, choose a diet high in carbohydrates, moderate in protein and low in fat, but do not eliminate fats altogether.

For personalized nutrition counseling, consult with a nutrition expert, a registered dietitian. Registered dietitians, or R.D.s must complete a degree in nutrition, a supervised internship, and must have passed a national registration examination.

Doctors Reject Dietary Supplement as Diabetes Treatment
(2/23)

SUZANNE LEIGH
c.1999 Medical Tribune News Service

Doctors say they will not be recommending a drug that has been found to improve insulin resistance in type 2 diabetics.

In a study published in the current issue of the Journal of the American College of Nutrition, patients with type 2 diabetes had less insulin resistance after undergoing an infusion of the amino acid L-carnitine.

Oral and injectable forms of this amino acid — which is produced naturally in the liver — are already prescribed as the drug levocarnitine for patients with carnitine deficiency. The drug also is available as a dietary supplement. Makers claim it can enhance athletic performance and protect against liver, kidney and heart disease.

Unlike patients with type 1 diabetes, who do not produce insulin, patients with the type 2 variation may manufacture adequate levels of insulin but develop resistance to its effects. Insulin is essential for the transportation of blood sugar, or glucose, into cells so they can produce energy.

Dr. Geltrude Mingrone and colleagues from the Catholic University in Rome evaluated the effects of insulin and L-carnitine on 15 type 2 diabetics and 20 healthy volunteers.

Earlier studies cited in the report found that L-carnitine improved heart function in diabetics and increased the level of glucose oxidation, a process that helps cells make use of glucose.

The researchers found that both the diabetic group and the healthy volunteers experienced an 8-percent increase in glucose use with L-carnitine compared with a placebo.

This 8-percent increase compares modestly with a

previous study using a higher dose of L-carnitine that found glucose use was increased by 17 percent.

Dr. Richard K. Bernstein, director of the New York Diabetes Center in Mamaroneck, said the study demonstrated benefits that were "only slightly higher than marginal."

Bernstein said that he prescribed L-carnitine with some success to patients with poor circulation, but did not expect to recommend it for insulin resistance.

"If we were to see an increase of 50 percent in glucose utilization, then we might want to look at the study more closely," he said.

A leading national diabetes expert, who refused to be named, described the results of the study as not impressive and "certainly no breakthrough." He said the study indicated that L-carnitine was a long way from being clinically recommended for type 2 diabetics.

Doctors said they would continue to prescribe drugs like metformin and troglitazone for insulin resistance. Dr. David M. Nathan, director of the Diabetes Center and the General Clinical Research Center at Massachusetts General Hospital in Boston, said he was satisfied with the safety and effectiveness of both drugs provided the patient was monitored at regular intervals for kidney and liver function.

March 4, 1999

NUTRITION NEWS FOCUS

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Today's Topic: Women and Vegetarianism

While only about one percent of men become vegetarians, it is estimated that four times this number of women do not eat meat. It is not clear what proportion of these women also avoid dairy products. Nutrition surveys of vegetarian women have shown that they tend to have lower levels of calcium, iron, zinc, and vitamins D and B12. For women who eat some animal products, the levels of each of these nutrients increases. The highest levels of these nutrients are seen in women who do not restrict their diets. Calcium and iron are two of the nutrients most lacking in diets of both vegetarians and omnivores.

These results do not mean a vegetarian diet is unhealthy but that it needs better planning than most people give it. It also indicates that women at risk for deficiencies of the nutrients listed above are not getting them from diet or supplements.

If you follow a special diet, keeping a diet diary for a week and then analyzing it for the nutrients listed above will give an indication about its nutritional adequacy. (But only an indication since all nutrients should be supplied by the diet.) This type of service is usually available from a Registered Dietitian, but you can do it yourself with a good reference book that contains tables of nutrient content of foods.

March 5, 1999

NUTRITION NEWS FOCUS

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Today's Topic: Nutrition Advice When Eating Out

We were hoping the news media would pick up this story but have waited and seen nothing. The US Department of Agriculture released a report on February 16, 1999 entitled, "Away-from-Home Foods Increasingly Important to Quality of American Diet." It is available at <http://www.econ.ag.gov/epubs/pdf/aib749/>. We eat out more than we used to and the nutrient make up of food eaten away from home is not of the same quality as things prepared at home.

Meals eaten away from home now account for 27% of all food eaten and represent a two-thirds increase over two decades. Fat contributes

32% of calories in home foods but 38% in away-from-home foods. Fiber content of foods away-from-home was 25% less than in home foods. Calcium content was almost as good in away-from-home meals because school lunches were included in the comparison. School food had the best nutrient profile of any meals studied.

HERE'S WHAT YOU NEED TO KNOW: While eating out can be a special treat, frequent consumption of meals outside the home generally means too many calories, fat and salt and not enough fruits, vegetables, and essential minerals. It is now fairly easy to get food cooked as you want, without added fat or sauces, even if not listed on the menu. Adding potatoes, salad, or other vegetables to a main meat course makes it healthier.

March 8, 1999

NUTRITION NEWS FOCUS

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Today's Topic: Score Another Safety Point for the Fake Fat

Olean, the fat substitute used in potato and corn chips, is the only consumer product in history that has its own toll free complaint line, which was set up by a consumer advocacy group in Washington, DC. Early formulations of olestra (sold under the brand name Olean) did cause intestinal upsets and actually leaked out of the rectum. After changes in the composition of the fat replacer, many studies showed no difference in intestinal complaints between people fed snacks with or without olestra.

A new study provided potato and corn chips to over 3,000 people aged 2 to 89 years of age who ate one ounce a day. Some chips were fried in regular fat and some in the fake fat, but the labels all appeared the same to the test subjects. There were no differences in the total number of gastrointestinal (GI) complaints between the two groups over six weeks. Almost 38% of participants had some GI problem during this time. There were only two differences reported in the study. Subjects eating olestra reported more loose stools but the actual numbers were 3.7 days versus 2.8 days among the controls. Significantly more of the control subjects reported nausea (8.4%) than those eating olestra (5.7%). The study appeared in the February 16, 1999 issue of Annals of Internal Medicine. It can be found at <http://www.acponline.org/journals/annals/16feb99/olestra.htm>.

HERE'S WHAT YOU NEED TO KNOW: The GI effects of olestra appear to be minimal. The tremendous publicity against it and possible GI effects makes people think that any stomach upset might be due to its

consumption. Rather than thinking an upset stomach might be due to too much fried chicken or sour cream dip, people blame it on olestra. Not one controlled study has verified this fear. One of the most interesting points in this story was that people who thought they were eating olestra were 50% more likely to have intestinal complaints no matter what type of chips they ate.

March 10, 1999

NUTRITION NEWS FOCUS

"Nutrition news is important. We help you understand it!"

Today's Topic: Broiled Food Get Thumbs Up...The Media Yawns

We have been told for years that charcoal broiled meats formed chemicals in the brown, crispy parts that cause cancer. Along comes a study that directly assesses this in people, gets published in one of the leading medical journals in the world, merits an editorial in the journal, and is completely ignored by the news media. What's wrong with this picture? Good news isn't newsworthy. It doesn't scare our socks off. It sure doesn't make good headlines.

About 1,000 people with colon, rectal, bladder and kidney cancer were identified in Sweden and asked about cooking methods and doneness of meat. They were compared with over 500 control subjects. Estimates of the carcinogenic compounds, heterocyclic amines (HCA), were made, and there was no increase in cancer across the levels found, which averaged about 80 ng (nanograms or billionths of a gram). There were seven cases, but no controls, who had intakes of HCA above 1900 ng. This difference is suggestive of a risk but far from conclusive.

The study was published in the February 27, 1999 issue of the Lancet.

http://www.thelancet.com/newlancet/reg/issues/vol353no9154/menu_NOD3.html.

HERE'S WHAT YOU NEED TO KNOW: Most dietary recommendations on cancer suggest minimizing foods broiled or sauteed at high temperature to reduce exposure to HCA. The amounts given to rats or mice to cause cancer are thousands of times higher than those consumed by the cases in this report. Furthermore, the mutations induced by HCA do not match the changes seen in these cancers. This will not be the last word on the subject of mutagens in cooked food, but this study balances many of the scare stories that often get reported. There may be some genetically at risk who should not be exposed to HCA, but this is an educated guess at this point in time.

March 11, 1999

NUTRITION NEWS FOCUS

"Nutrition news is important. We help you understand it!"

Today's Topic: Birth Weight Determines Your Fate

Studies linking birth weight with heart disease or diabetes much later in life have been conducted over the last ten years. Most of the studies have found that lighter babies were more likely to develop these two conditions, but one criticism of them was the studies were too small to be definitive.

Along comes Harvard Medical School's Nurses' Health Study. Researchers analyzed data from almost 70,000 women and found 2123 cases of type 2 diabetes. Women who weighed less than 5 pounds at birth were almost twice as likely to get diabetes later in life than those who weighed 8 pounds at birth. The analysis controlled for the women's adult body weight and history of diabetes in their mothers. The study appeared in the February 16, 1999 issue of *Annals of Internal Medicine* (<http://www.acponline.org/journals/annals/16feb99/birthwt.htm>).

HERE'S WHAT YOU NEED TO KNOW: See? It IS your mother's fault. Seriously, these results indicate a strong residual effect of factors acting on the developing fetus. It is not likely that a nutritional recommendation will come from this type of study, but we may learn more about some of the factors we cannot control in susceptibility to diabetes and heart disease. Remember, though, that overweight as an adult is still the biggest risk for getting type 2 diabetes.

Today's Topic: Pantothenic Acid

Pantothenic acid is a B vitamin and an essential coenzyme in energy metabolism. Although there is no RDA set, the estimated adequate intake level is listed at 4-7 milligrams (mg or thousandths of a gram) daily for adults. Deficiency of pantothenic acid usually occurs as part of a general B vitamin deficit in severely malnourished people. In affluent countries, the most common condition leading to pantothenic acid deficiency is alcoholism.

Rich sources of pantothenic acid include eggs, liver, kidneys, wheat bran and peanuts. Moderate sources include meat, beans, peas, rice, oats, carrots, spinach and kale. Good sources are most fruits, vegetables, nuts, and seafood. There is no evidence of toxicity from pantothenic acid. There is also no indication that supplements are ever necessary except in severely malnourished individuals.

Today's Topic: Body Wraps for Weight Loss

This is not exactly a nutrition story but has been asked about by readers of Nutrition News Focus and is a good example of cosmetic science. This term refers to claims that appear to be science based but are simply fluff. People in many countries have been paying the equivalent of US \$50-300 per session to be wrapped in bandages like a mummy to lose weight and drive out toxins.

The bandages are often soaked in good smelling herbs and fragrances, which the sellers claim force toxins out of fat cells, causing the fat to go with them. If only this were true! There is not a shred of scientific evidence to back up any of these claims.

HERE'S WHAT YOU NEED TO KNOW: While a body wrap may feel good, the only weight loss will be from sweating and the lightening of your wallet. This is a pretty expensive treatment for almost nothing. The water lost will come back quickly. The proponents of this technique claim this just shows you need more treatments. Those of us with analytical backgrounds think this treatment is an expensive extravagance with no health benefits.