Cranberry Health News

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In This Issue

Physician Assistant Edition

THE CRANBERRY INSTITUTE

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CRANBERRY ANTIADHESION MECHANISM UPDATE FOR PHYSICIAN ASSISTANTS

Martin Starr, PhD, science advisor to the Cranberry Institute, recently attended the 2006 American Academy of Physician Assistants (AAPA) National Conference and Expo in San Francisco, CA, bringing the latest cranberry and health research to a key audience in the healthcare community.

Bacterial Antiadhesion Benefits

As background, the flavonoids in cranberries, known as proanthocyanidins (PACs), have a unique chemical structure responsible for their antiadhesion properties. Because of this bacteria-blocking activity, researchers are investigating cranberries' potential impact on bacteria-related conditions including urinary tract infections (UTIs), dental carries and ulcers.

For more information on the antiadhesion mechanism, please visit: http://www.cranberryinstitute.org/news/Fall_Newsletter_05.PDF

In 2005, James Greenberg, MD, a gynecologist at Brigham and Women's Hospital in Boston, MA, led a study involving five women with culture-confirmed UTIs. Their urine was tested after consumption of dried cranberries, and then again after consumption of raisins. The researchers found that the women demonstrated an increase in anti-adherence activity of as much as 50 percent after consuming the dried cranberries, whereas consumption of a single serving of raisins had no effect.

Researchers have also discovered that the antiadhesion qualities of cranberries may help ward off periodontitis, or severe gum disease, by serving as a powerful anti-inflammatory agent. This new research offers great promise for the estimated 67 million Americans affected by periodonitis, the primary cause of tooth loss in adults.

In one of the latest studies, published in the *Journal of Antimicrobial Chemotherapy*, researchers discovered that the cranberry compounds can reduce the growth of *P. gingivalis* and subsequent plaque development. Previous research has shown that cranberry compounds may also prevent certain oral bacteria from directly destroying gum tissue itself, another major factor contributing to severe gum disease.

Additionally, a study on cranberries and oral health reported in previous issues of *Cranberry Health News*, and led by oral biologist Hyun Koo of the University of Rochester Medical Center, has been published in the January 2006 issue of *Caries Research*.

Free Materials for You & Your Patients

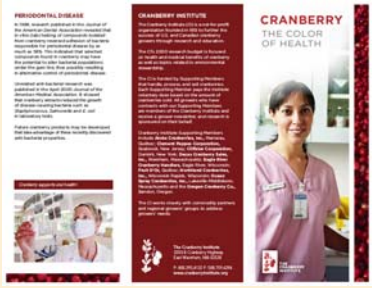
The Cranberry Institute and Cranberry Marketing Committee publish several free brochures, available upon request.

For health professionals, the Technical Brochure summarizes the research on cranberries' antiadhesion and antioxidant benefits into one quick overview.

And for your patients, ask for the Consumer Brochure to get information on cranberries' health benefits in laymen's terms plus delectable recipes!

To order samples, e-mail: kauilani.ostrem@publicis-usa.com

Technical Brochure



Consumer Brochure

For additional coverage of Dr. Hyun Koo's research on cranberries and oral health, please visit: http://www.cranberryinstitute.org/news/FALL04.pdf

References: J.A. Greenberg, et al. Consumption of sweetened dried cranberries versus unsweetened raisins for inhibition of uropathogenic *Escherichia coli* adhesion in human urine: a pilot study. *J. Altern Complement Med*. 2005; 11(5): 875-8.

J. Labrecque, et al. Effects of a high-molecular-weight cranberry fraction on growth, biofilm formation and adherence of *Porphyromonas gingivalis*. *Journal of Antimicrobal Chemotherapy*. 2006; 58(2): 439-443.

RECENT STUDY FINDS THAT CRANBERRIES MAY HELP FIGHT FLUS

According to the Centers for Disease Control, influenza (flu) viruses infect 5-20 percent of the U.S. population each year. Of this, more than 200,000 people are hospitalized for complications from the flu, and approximately 36,000 die. Influenza viruses can also cause pandemics, during which rates of illness and death from influenza-related complications can increase worldwide. These viruses cause disease among all age groups.

Now, a new study shows that cranberries may play a role in preventing certain flu viruses from attaching to host cells. The preliminary laboratory research, conducted by Hebrew University-Hadassah and Tel Aviv University in Israel, found that the high molecular weight constituent [nondialyzable material (NDM)] in cranberry juice can inhibit certain type A and type B influenza virus adhesion to cells, and subsequent infectivity.

The infectivity of the A and B types were significantly reduced by preincubation with NDM (250 µg/ml). The effect of NDM was also tested after A or B type viruses were allowed to penetrate the cells. Various levels of reduction in virus tissue culture infective dose $TCID_{50}$ were observed. The effect was most pronounced when NDM was added several times to the infected Madine-Darby canine kidney (MDCK) cells.

Another study, led by researcher Dr. Steven Lipson of St. Francis College in Brooklyn, NY, focused on the antiviral effects of several cranberry concentrates and extracts. The results suggested that cranberry juice has an effect on the replication cycle of the virus at an early stage, which prevents it from penetrating the host cell.

Overall, these studies set the stage for more research in the area of flu prevention, as researchers continue to explore the therapeutic potential of cranberries.

References: E.I. Weiss, et al. Cranberry juice constituents affect influenza virus adhesion and infectivity. *Antiviral Research*. 2005 April; 66(1): 9-12.

S. Lipson, et al. Investigations into the effects of cranberry juice cocktail drink, cranberry concentrates, and proanthocyanidins, on the infectivity titer of a mammalian enteric reovirus. *106th General Meeting of the American Society for Microbiology*. A-061, p. 117.

Did you know?

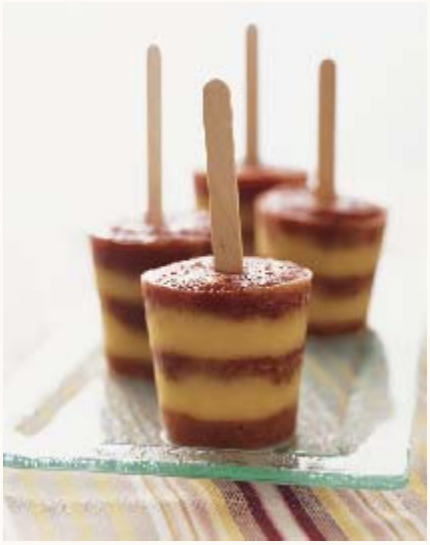
New Dried Cranberry Products with Reduced Sugar

In an effort to update their cranberry product portfolios, several manufacturers are developing dried cranberries that reportedly contain 50 percent less sugar than the original products on the market. The new products will also likely offer high fiber content.

Patients can already find "light" and diet cranberry juice beverages at local stores across the country. Replacing a full-calorie cranberry juice with a "light" version can save up to 140 calories a day.

Sources: Food Navigator May 9, 2006 and Calorie Control Council June 20, 2006

Cranberry Mango Ice



1 1/2 cups	Dried cranberries
1 1/2 cups	Apricot nectar
1/3 cup	Lemon juice
2 tablespoons	Sugar
2 cups (2 large)	Mangos, peeled, pitted, pureed

Bring cranberries and apricot nectar to boil in small saucepan. Reduce heat and simmer 3 minutes until softened. Place cranberry mixture, lemon juice and sugar in food processor and puree until blended.

Place cranberry puree in small bowl. Place mango puree in separate bowl. Remove 2/3 cup cranberry puree and 2/3 cup mango puree and place in separate bowl and stir until blended.

Layer in small 3 oz paper cup, 1 tablespoon at a time: cranberry-mango mixture, mango puree, cranberry puree, mango puree, cranberry puree and cranberry-mango mixture. Place popsicle stick in center of mixture. Repeat to make 7 more popsicles. Freeze at least 4 hours until firm. Cut down side of cup to remove popsicle. Makes 8 servings.

Nutritional Analysis per Serving: Calories 150 (2% Calories from Fat), 0g Protein, 38g Carbohydrate, 2g Fiber, 0g Fat, 0g Sat. Fat, 0mg Cholesterol, 0mg Sodium.