New Chinese Research Finds Daily Cranberry Intake Associated with Reduced H. pylori Infection Rates

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Study Seeks Novel Solutions to Help Manage Class I Carcinogen – H. pylori

WAREHAM, Mass., Aug. 18, 2020 /PRNewswire/ -- A new clinical trial found consuming cranberry juice containing 44 mg of proanthocyanidins (or "PACs") per 240-mL serving twice daily for eight weeks resulted in a 20% reduction in the *H. pylori* infection rate in Chinese adult participants, when compared to those consuming lower amounts of juice and a placebo.[1] While more research is needed, these findings published in the *Journal of Gastroenterology and Hepatology*, a top international gastroenterology journal, show that twice daily consumption of 44 mg PAC cranberry juice has the potential to be a natural, complementary management strategy for adults in this population infected with *H. pylori*.

The new study, "Suppression of *Helicobacter pylori* Infection by Daily Cranberry Intake: A Double-Blind, Randomized, Placebo-Controlled Trial" was conducted by key scientists at the Department of Cancer Epidemiology, Peking University Cancer Hospital and Institute in Beijing, China, a leading cancer research center. The study included 522 *H. pylori*-positive Chinese adults between the ages of 18-60 that have never previously received antibiotic therapy for *H. pylori* infection. Participants assigned to specific groups consumed different amounts of cranberry juice, juice-based powder or their placebos daily for eight weeks with testing performed at 2 and 8 weeks to determine *H. pylori* suppression rates. Investigational products were standardized to contain different levels of PACs to evaluate their effects on *H. pylori* suppression.

"The study findings reveal that cranberry juice may be a useful aid in *H. pylori* management in adults in a high-risk region of China with an endemic infection rate of over 50%, and has potential to be a key area for future research," says lead researcher Professor Kai-Feng Pan MD,

PhD, Key Laboratory of Carcinogenesis and Translational Research (Ministry of Education/Beijing), Department of Cancer Epidemiology, of Peking University Cancer Hospital & Institute. "While not alternatives to antibiotics, effective complementary strategies, like cranberry, that can contribute to managing *H. pylori* infections without negative side effects are highly desirable."

H. pylori bacterial infection is of worldwide concern due to its high global prevalence rate of over 80% in some developing countries and potential to cause stomach ulcers, which when untreated, increase the risk of developing stomach cancer.[2] The overall *H. pylori* prevalence rate in the current study in Linqu County, China was 51.62%, while the weighted average prevalence of *H. pylori* among U.S. adults is 35.6% according to a 2016 systematic review of data between 1990-2006 from 10 studies.[8] While *H. pylori* infection is the primary identified cause of gastric cancer, other major risk factors include chronic gastritis, high-salt diets and chemical carcinogens.[3,4] Classified as a class I carcinogen by the World Health Organization,[5] *H. pylori* infection in China is traditionally treated with costly triple or quadruple antibiotic therapies that can have significant side effects and treatment failure rates of 10-30%.[6,7]

Previous *in vitro* studies in Israel demonstrated that a cranberry extract containing PACs inhibited adhesion of *H. pylori* strains to human gastric mucus and stomach cells.[9] Results from *in vitro* studies provide indicators that are used as background to formulate hypotheses for other human studies.

Cranberry juice (240 mL) containing 44 mg PAC reduced *H. pylori* when taken twice daily for eight weeks compared to other juice treatments or placebo, showing a statistically significant positive trend over time, but was not effective if taken only once a day or if juice with the lower PAC content of 23 mg was consumed. Participants that tested negative at eight weeks were retested 45 days later after ending treatment and 75% in the juice group remained *H. pylori*-negative. Some subjects in the placebo group also remained negative at this time point, possibly due to ingestion of unaccounted dietary components with *H. pylori* inhibitory activity. Statistical analyses were not performed on these data due to limited sample sizes. Additional research is needed to further explore any bacterial eradication effects of cranberry on *H. pylori*. Participants who remained *H. pylori*-positive following the trial were provided standard triple therapy antibiotic treatments.

Cranberry juice-based encapsulated powder containing either 36 or 72 mg of PACs per day was not effective at suppressing *H. pylori*. Given the consumer interest in cranberry supplements, researchers suggest that future trials could test effects of twice-daily dosing of powder with higher PAC content and potentially dissolve the powder in liquid prior to consumption to improve dispersion in the stomach.

The results of this research provide details on effective amounts of cranberry juice, PAC content and frequency of consumption over an 8-week intervention period. The statistically significant

20% suppression of *H. pylori* infection rates in this trial following intake of the high-PAC cranberry juice by Chinese adults exceeds suppression rates found in previous trials in China[10] and Chile[11] that tested only one serving size of cranberry juice with unknown PAC levels. Results of the current study suggest that regular consumption of cranberry juice, when administered at certain amounts, has the potential to assist in the management of *H. pylori*, especially in China where endemic infection and gastric cancer rates are high.[6] More research is needed to determine broader effects of cranberry juice and *H. pylori* infection and additional details on the mechanisms of action.

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About the Cranberry Marketing Committee (CMC)
The CMC was established as a Federal Marketing Order in 1962 to ensure a stable, orderly supply of good quality product. Authority for its actions are provided under Chapter IX, Title 7, Code of Federal Regulations, authorized by the Agricultural Marketing Agreement Act of 1937, as amended. This Act specifies cranberries as a commodity that may be covered, regulations that may be issued, and guidelines for administering the programs, and privileges and limitations granted by Congress. For more information about the CMC, visit uscranberries.com. Follow at twitter.com/uscranberries and facebook.com/uscranberries.

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