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## Article

### **Black Raspberries May Prevent Esophageal Cancer**

Posted: 2/5/2008 |  Watch : [wmv](#)

COLUMBUS, Ohio – Eating black raspberries may protect against esophageal cancer among people at high-risk for developing the deadly disease, according to a new study at The Ohio State University Comprehensive Cancer Center.

The research showed that black raspberries can reduce oxidative stress in patients with Barrett's esophagus, a pre-cancerous condition linked to gastroesophageal reflux disease, says Laura Kresty, a member of the Molecular Carcinogenesis and Chemoprevention program in Ohio State's Comprehensive Cancer Center.

Patients who develop Barrett's esophagus have a significantly increased risk for developing esophageal cancer, says Kresty, who presented the findings at the American Association for Cancer Research's sixth annual International Conference on Frontiers in Cancer Research Prevention in Philadelphia.

Barrett's esophagus arises from bile and stomach acid refluxing into the esophagus, which increases the generation of highly reactive unstable molecules, also known as free radicals. If left unchecked, oxidative stress occurs when the unstable molecules exceed the ability of the cells' antioxidant defense systems, which can result in alterations and damage to tissue membranes, proteins and DNA.

“About 10 percent of the patients who have Barrett's esophagus will develop esophageal adenocarcinoma, which is the fastest growing cancer in terms of incidence in the United States,” says Kresty, an assistant professor of Human Nutrition in the College of Education and Human Ecology at Ohio State.

Kresty and her collaborators hypothesized that patients with Barrett's esophagus could reduce their risk of developing esophageal cancer by eating black raspberries. Previous animal studies at Ohio State had found that black raspberries inhibit oral, esophageal and colon cancers. The studies showed that berries reduced measures of oxidative stress, also known as the destruction done to cells by free radicals. The berries also decreased DNA damage, inhibited cellular proliferation rates and reduced the number of precancerous cells in the esophagus and colon.

“If we can intervene early and help this patient population with a preventive agent that will slow down or delay the progression of the disease, we could have a real positive impact on this deadly cancer,” Kresty says. “Esophageal cancer has only a 15 percent five-year survival rate.”

During this six-month study, 20 Barrett’s esophagus patients ate 32 or 45 grams (about an ounce to an ounce and half) of freeze-dried black raspberries daily. Tissue, blood and urinary biomarkers were assessed before and after the study.

“We measured markers for DNA damage and global oxidative stress, including urinary 8-Isoprostane,” Kresty says. “After the study, 58 percent of patients had marked declines in this marker, which indicates less oxidative stress.”

Researchers also found that 37 percent of patients in the study had increased measures of a protective enzyme called GSTpi that helps detoxify carcinogens and other injurious substances.

“From an intervention standpoint, we’re interested in looking at an effective food agent that may have a positive impact,” Kresty says. “These results are encouraging, but more study is needed.”

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