

GenBio Inc. Shares Valuable Information on Protecting and Repairing the Gastrointestinal Tract

Globally, 38.4% of prevalent diseases had a digestive etiology, representing 2.9 billion cases

ALISO VIEJO, CA, UNITED STATES, June 9, 2025 /EINPresswire.com/ -- Changes in gut bacteria lead to damaged structure and function of the gastrointestinal tract. Acute changes cause gastrointestinal diseases ranging from food poisoning with *E. coli* to [cholera](#) with *Vibrio* species. The current

7th cholera pandemic affects around 3-5 million people annually and is estimated to have killed 30,000 to 130,000 people.

Helicobacter pylori is a major bacterial cause of chronic human gastric disease worldwide, especially gastric ulcers.

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Belief begins where science leaves off and ends where science begins.”

Rudolf Virchow

Global prevalence is around 40%; eradication of [H. pylori](#) reduces the risk of gastric cancer in infected individuals. Standard treatments include 2 or 3 antibiotics combined with a proton pump inhibitor. Dietary interventions including anthocyanins have been recommended based on

animal or in vitro studies but adequate human clinical trials have not been published.

Berry extracts containing anthocyanins produced antimicrobial activity against *H. pylori* in a high-throughput bacterial assay. Black rice extract containing cyanidin 3-glucoside inhibited the biogenesis of virulence proteins in *H. pylori* and decreased apoptosis of *H. pylori*-infected cells. Further, the anthocyanin, malvidin, reduced oxidative stress and inflammation in peptic ulcers caused by ethanol and non-steroidal anti-inflammatory drugs and increased healing of acetic-acid-induced ulcers. In DSS-induced IBD in rats, cyanidin 3-glucoside and extracts of Queen Garnet plums at 8 mg/kg/day effectively reversed gastrointestinal symptoms to a similar extent as sulphasalazine (~350 mg/kg/day).



Inflammatory bowel disease (IBD) is a chronic relapsing-remitting gastrointestinal disease where the gut microbiota shows decreases in beneficial bacteria and increases in pathogenic bacteria including changes that may precipitate relapse. Restoring dysbiosis by increasing the production of short-chain fatty acids from dietary fibre by the microbiota may be useful to support therapy of IBD. Dietary anthocyanins may alter the bacterial metabolism within the intestines and so reduce inflammation. In addition, anthocyanins such as cyanidin 3-glucoside and their phenolic metabolites may improve the structure and function of the intestinal barrier and reduce oxidative stress to reduce IBD.

The relationship between inflammation and tumours was first described by [Rudolf Virchow](#), known as the father of pathology, in the 19th century. This finding has been refined to the concept that chronic inflammation is an enabling characteristic of cancer development. Prolonged disturbances to the gut microbiome, including increased pro-inflammatory bacteria and decreased anti-inflammatory bacteria, decrease the ability of the body to maintain homeostasis, resulting in local and systemic inflammation.

Gastrointestinal cancers including oesophageal, gastric, bowel and colorectal cancers represent about one quarter of all cancers. Their incidence is increasing with about 5 million new gastrointestinal cancers from 2018 data. Increasing gastrointestinal cancer incidence has broadly followed the westernisation of the diet. This information suggests that changes in diet may offer targets for future preventative studies on gastrointestinal cancers. Since dietary behaviour is modifiable, a healthy diet in patients with gastrointestinal cancers includes a higher intake of fruits, whole grains, legumes, vegetables, milk and other dairy products. Dietary anthocyanins have shown protective effects in colorectal cancer, the most common gastrointestinal cancer.

Proposed mechanisms include their anti-inflammatory, antioxidant and anti-proliferation properties, but there is a scarcity of relevant human clinical trials. Animal and cell studies are the basis for human trials, but they do not prove clinical effectiveness in humans.

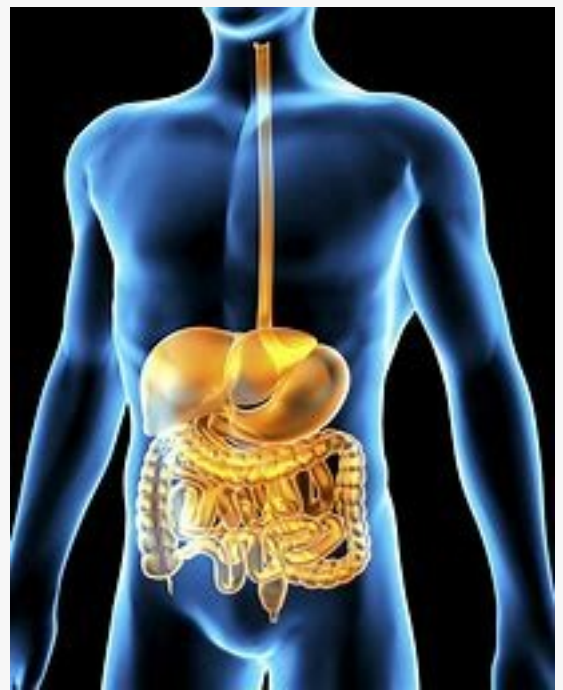
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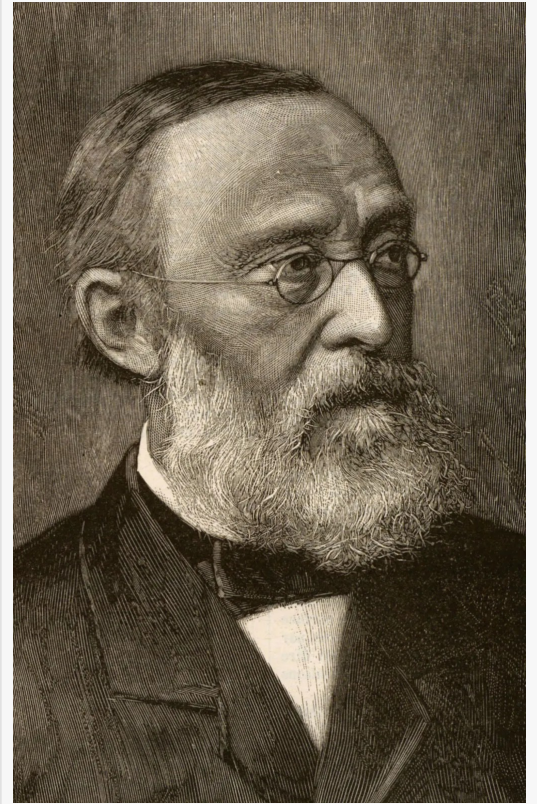
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The GI tract contains all the major organs of the digestive system, in humans and other animals, including the esophagus, stomach, and intestines.

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Rudolf Virchow (born October 13, 1821, Schivelbein, Pomerania, Prussia—died September 5, 1902, Berlin, Germany) was a German pathologist and statesman, one of the most prominent physicians of the 19th century.

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