Medical Xpress

Biomarkers discovered for inflammatory bowel disease

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Using the Department of Defense Serum Repository (DoDSR), University of Cincinnati (UC) researchers have identified a number of biomarkers for inflammatory bowel disease (IBD), which could help with earlier diagnosis and intervention in those who have not yet shown symptoms.

This finding, the first of its kind and led by UC's Bruce Yacyshyn, MD, is being presented via podium presentation by staff from Walter Reed National Military Medical Center at Digestive Disease Week 2013, being held May 18-21 in Orlando, Fla.

The DoDSR is a biological repository operated by the U.S. Department of Defense and contains over 50 million human serum specimens, collected primarily from applicants to and members of the U.S. uniformed services.

"With collaborators from Walter Reed, we were able to identify all of the active duty service men and women who developed IBD and then used the repository to go back and look at various biomarkers to see what each person had in common," says Yacyshyn, a professor of medicine at the UC College of Medicine and UC Health gastroenterologist.

IBD is a group of inflammatory conditions of the colon and small intestine. The main types of IBD are Crohn's disease and ulcerative colitis; inflammatory bowel diseases are considered autoimmune

diseases in which the body's own immune system attacks elements of the digestive system.

In this study, researchers used the repository to identify 50 cases of Crohn's disease and 50 cases of ulcerative colitis. They analyzed proteins from three samples per case—two taken before and one after diagnosis—using a statistical analysis format.

Certain proteins were found in elevated levels in samples from patients who developed IBD.

"The selection of proteins we chose to analyze was based on a prior study conducted at UC," Yacyshyn says. "Although the presence of proteins in those who develop Crohn's disease varies from those present in ulcerative colitis patients, we were able to show that there were elevated levels of certain proteins in patients who developed IBD."

"Future large validation studies are needed to confirm the presence of biomarkers to guide in diagnosis, prevention and management of these patients," he adds.

Yacyshyn and his collaborators in the division of digestive diseases and at Cincinnati Children's Hospital Medical Center are hoping to study this further in a pediatric population and have requested funding from the Crohn's and Colitis Foundation.

"This could change the way we currently screen for and treat IBD, which could improve prevention strategies, patient outcomes and their overall quality of life," he says.

This study was investigator-initiated.