# Genetic study of patients with inflammatory bowel disease could lead to better treatments

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Genetic variation in patients with inflammatory bowel disease (IBD) appears to play a major role in determining how sick they will become and could provide a road map for more effective treatments.

The findings of an international study of 35,000 patients with the two most common forms of the illness, Crohn's disease and ulcerative colitis, appears in *The Lancet*. Investigators compared the clinical records of IBD patients with data collected from analyzing their DNA in what is considered the largest study of its kind.

The genetic information provided new insights into the progression of IBD and the rate at which the disease develops. Researchers said the findings showed that IBD actually may be an array of bowel disorders.

"This new research strongly suggests that we are dealing a number of different diseases hidden within Crohn's disease and ulcerative colitis, constituting a large spectrum of inflammatory bowel disease,"said Dermot McGovern, MD, PhD, MRCP(UK), director of Translational Medicine in the F. Widjaja Foundation Inflammatory Bowel and Immunobiology Research Institute at Cedars-Sinai.

IBD is caused when the body's immune system attacks the gastrointestinal tract, causing chronic and damaging inflammation. An estimated 1.6 million people in the United States have the disease, including as many as 80,000 children, according to the Crohn's and Colitis Foundation of America.

Surgery and medications that can repair the immune system are considered the most effective treatments.Researchers found that genetic analysis could potentially identify which patients might benefit from earlier intervention with more aggressive therapy.

"We have very effective therapies for IBD if we use them sooner in the disease, especially for those patients who are at risk for developing a serious form of illness," said McGovern, co-senior author of the study. "We want to understand what the important, singular, genetic signature is for each individual patient because they may respond to available therapies very differently, even with the same IBD diagnosis."

The research provides an important pathway to improve patient care.

"Genetic research of this magnitude of sample size provides critical information about IBD that takes us farther down the road to providing personalized diagnosis and care to our patients with complex disorders," said Shlomo Melmed, MD, executive vice president of Academic Affairs and dean of the medical faculty. "Individualizing treatment approaches will help ensure we are getting the most appropriate treatment to the right patient at the correct time."

McGovern pointed out that while the study is an important step, it also raises new questions. He said that genes associated with IBD also are connected to other autoimmune diseases, including spondylitis and psoriasis. As such, the research has implications for managing those conditions.

"For many of our patients, these new genetic insights could be very beneficial," McGovern said. "But we also need to look more closely at some of the sickest IBD patients in hopes of providing more effective treatment and disease management."

**More information:** *The Lancet*, www.thelancet.com/journals/lan …

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