

Connecticut Children's Doctor Co-Authors Nationwide Study that Uses Personalized Medicine to Predict Complications in Children Newly Diagnosed with Crohn's Disease

Hartford, CT (DATE) – Using a patient's personal genetic makeup, a team of medical researchers **led by a Connecticut Children's gastroenterologist** has discovered a new way to predict if a child newly diagnosed with Crohn's disease will require major surgery within 3 to 5 years.

The RISK study is the culmination of almost 10 years of work by the leading pediatric inflammatory bowel disease centers in North America. **Jeffrey Hyams, MD, Director of the Connecticut Children's Pediatric IBD Center and Center for Digestive Diseases** is one of the 7 members of the Steering Committee that developed and guided this ground breaking research.

Crohn's disease, one form of inflammatory bowel disease, is a chronic and often debilitating gastrointestinal illness that preferentially strikes young individuals with over 20% being affected during childhood. For reasons that are not known, **Connecticut has a very high incidence of this disorder** and over 500 children with Crohn's disease and 300 with a related condition, ulcerative colitis, are cared for at the Connecticut Children's IBD Center. Over 10% of the children studied in the RISK project were enrolled at Connecticut Children's Medical Center between 2008 and 2012.

"The course of Crohn's disease and its response to current therapies is very variable. The ability to predict natural history and response to therapy is invaluable," said Jeffrey Hyams, co-senior author of the paper. "The RISK study provides new and exciting findings that genetic signatures in bowel tissue along with analysis of the intestinal microbiome (bacteria) may help doctors treat the disease specific to the patient and predict how they will respond to therapy."

"Twenty five percent of patients with Crohn's disease account for 80 percent of complications, hospitalizations, surgery, and health care costs. The aim of RISK is to preemptively identify those 25 percent of patients at diagnosis," Subra Kugathasan, MD, Emory University, principal investigator and co-lead author of the paper. "Through the study of baseline gene expression, immune reactivity, and intestinal bacteria, we have identified distinct biological signatures capable of predicting stricturing and penetrating disease, at diagnosis. After analyzing millions of biological and clinical data points, RISK has generated a composite risk stratification model."

Dr. Hyams is the Co-Principal Investigator, along with Dr. Ted Denson at Cincinnati Children's Hospital Medical Center, on a \$10.4M grant from the National Institutes of Health examining similar issues in children newly diagnosed with ulcerative colitis. This study, The PROTECT Study: Predicting Response to Standardized Pediatric Colitis Therapy, started in 2012, finished enrollment of 468 patients in 2015, and finished patient follow up in April 2016. The first findings from this study will be presented at Digestive Disease Week in Chicago, IL in May 2017.

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About the RISK Stratification Study

The RISK Stratification Study enrolled 1,800 patients from 28 clinics, with a focus on 913 children with Crohn's disease enrolled at diagnosis and complication-free following 90 days after diagnosis. This 36-months prospective inception cohort study included well documented clinical,

demographic, and biological sample collection every six months on all patients for 3 years with continuing follow up for 5 years.

About Connecticut Children's Medical Center

Connecticut Children's Medical Center is a nationally recognized, 187-bed not-for-profit children's hospital serving as the primary teaching hospital for UConn School of Medicine. Connecticut Children's is the only free-standing children's hospital in Connecticut and offers comprehensive, world-class health care to children. Pediatric services are available at Connecticut Children's Medical Center in Hartford and at Saint Mary's Hospital in Waterbury, with neonatal intensive care units at Hartford Hospital and UConn Health, along with a state-of-the-art ambulatory surgery center, five specialty care centers and 11 other locations across the state. Connecticut Children's has a medical staff of nearly 1,100 practicing in more than 20 specialties.

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About the Crohn's & Colitis Foundation of America

The Crohn's & Colitis Foundation of America (CCFA) is the largest non-profit, voluntary, health organization dedicated to finding cures for inflammatory bowel diseases (IBD). CCFA's mission is to cure Crohn's disease and ulcerative colitis, and to improve the quality of life of children and adults who suffer from these diseases. The Foundation works to fulfill its mission by funding research; providing educational resources for patients and their families, medical professionals, and the public; and furnishing supportive services for those afflicted with IBD. For more information visit www.ccf.org, call 888-694-8872, or email info@ccfa.org.