

The Future of IBD Therapy

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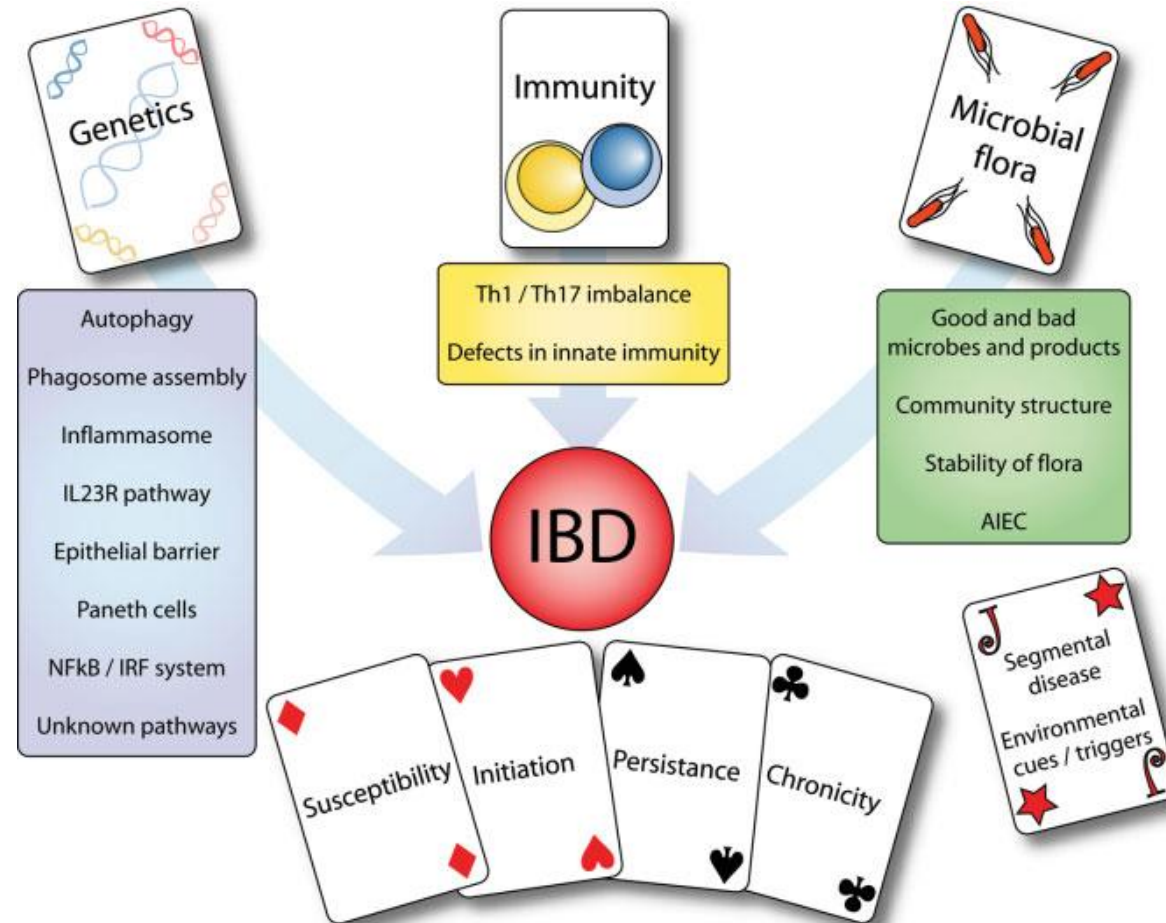
Division of Gastroenterology, Hepatology and Nutrition



Objectives

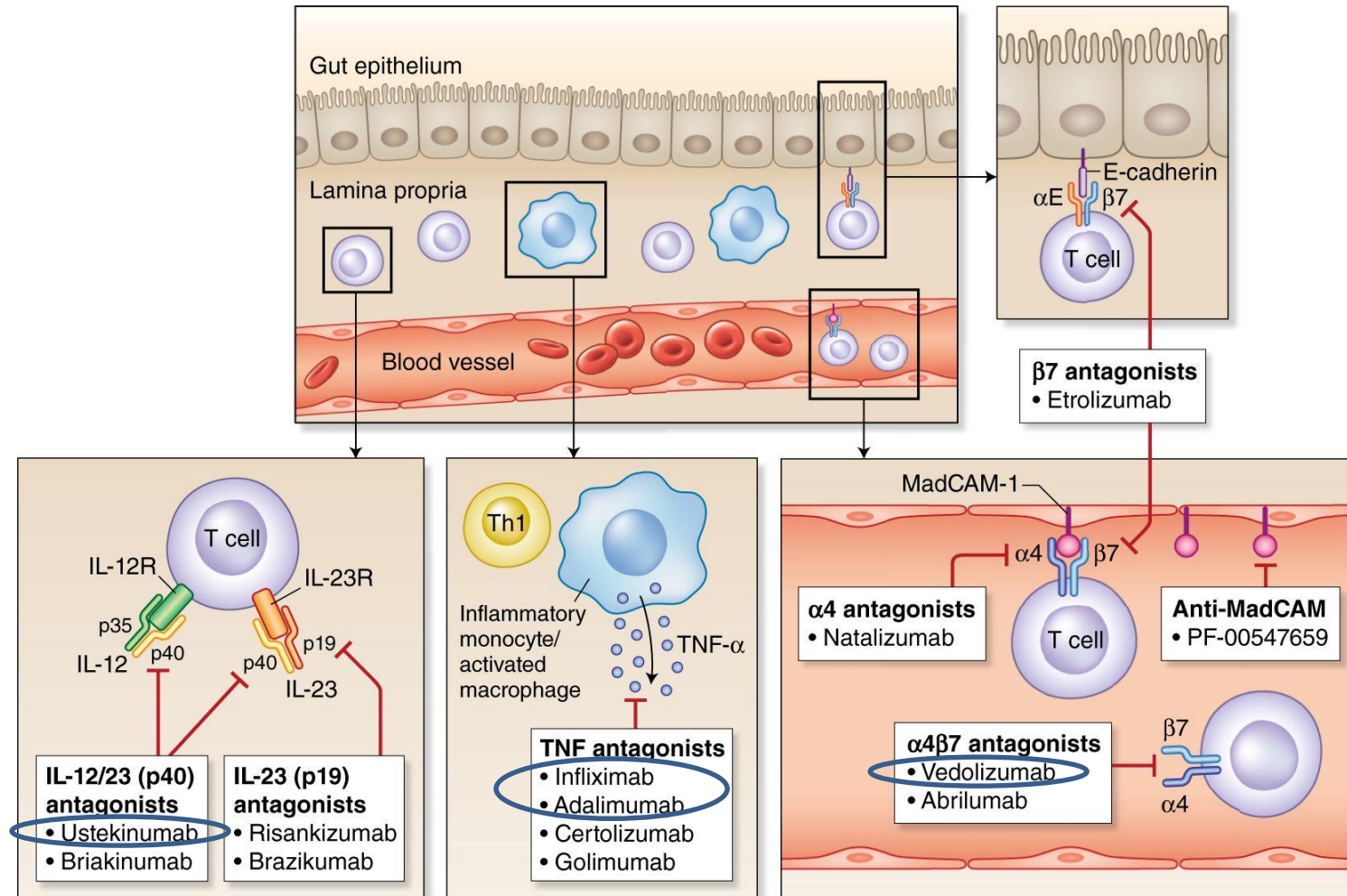
- Review current and future biologic treatment targets in IBD
- Highlight novel therapies under investigation
- Discuss the role of personalized medicine in IBD therapy

IBD: A Complex Disease

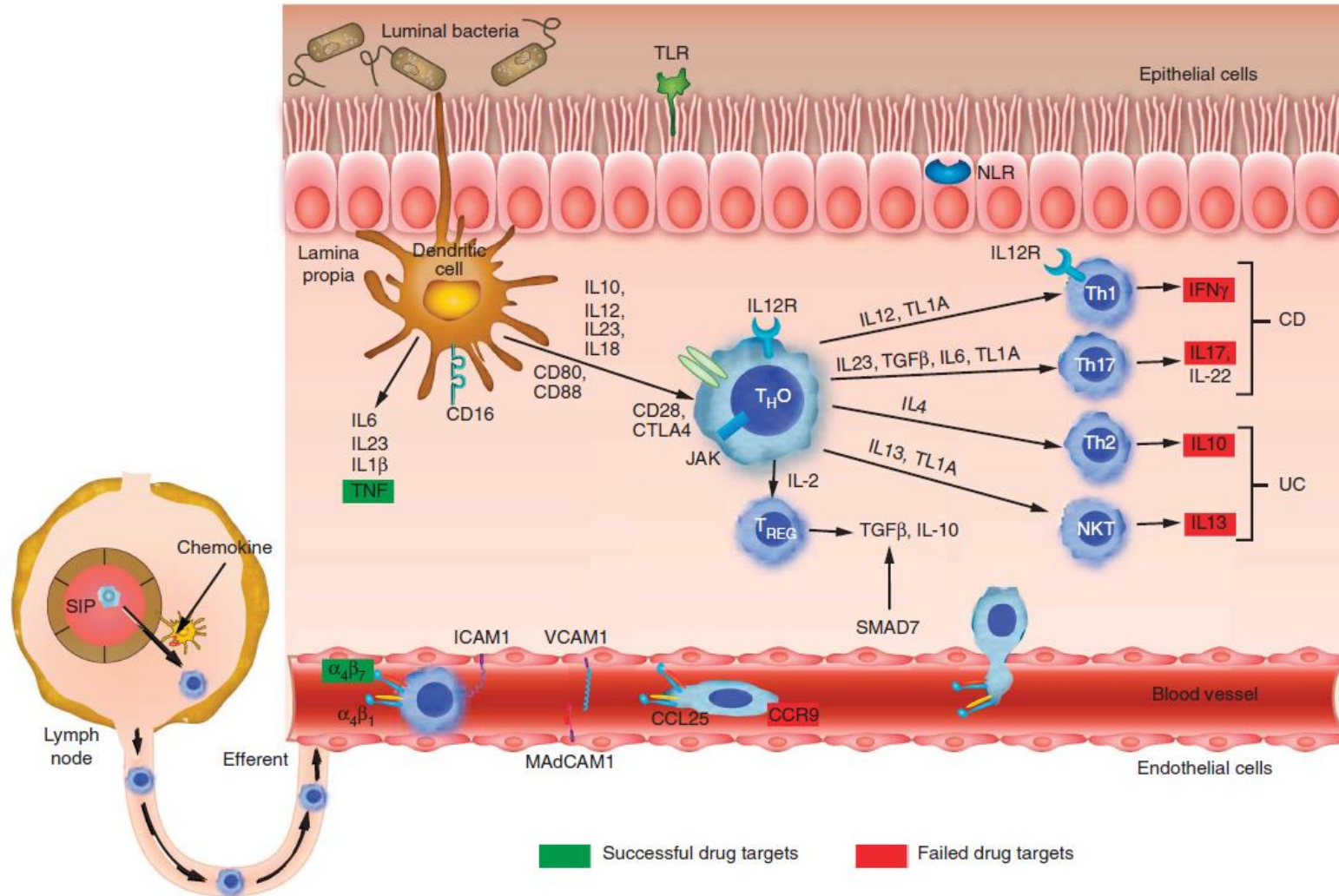


Each patient's disease is unique

Current Biologic Therapies for IBD



Treatment Targets for Biologics in IBD



Future Therapies

- Novel cytokine-based therapies (anti-TL1A, anti-IL6, etc)
- Hematopoietic stem cells
- Modulation of T regulatory cells
- Mesenchymal stem cells
- Targeting the microbiome

IBD Clinical Trials

- As of Jan 2020: >100 Phase I – III clinical trials recruiting in the U.S.
 - Phase I: studies assess the safety of a drug
 - Phase II: studies test the efficacy of a drug
 - Phase III: studies involve randomized and blind testing in several hundred to several thousand patients

 U.S. National Library of Medicine

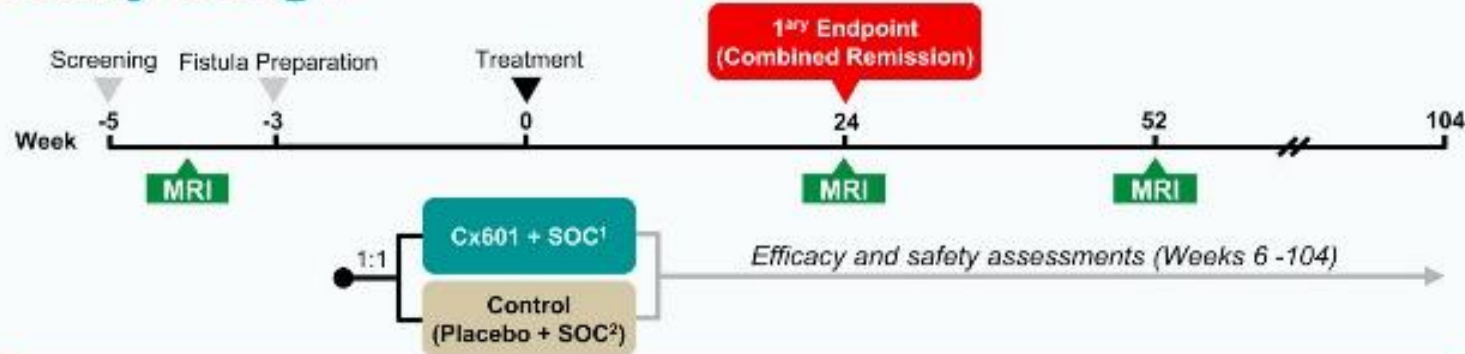
ClinicalTrials.gov

Admire CD Study: Cx601 (darvadatrocel) for Complex Perianal Fistulas in CD (allogeneic adipose-derived stem cells)

Treatment

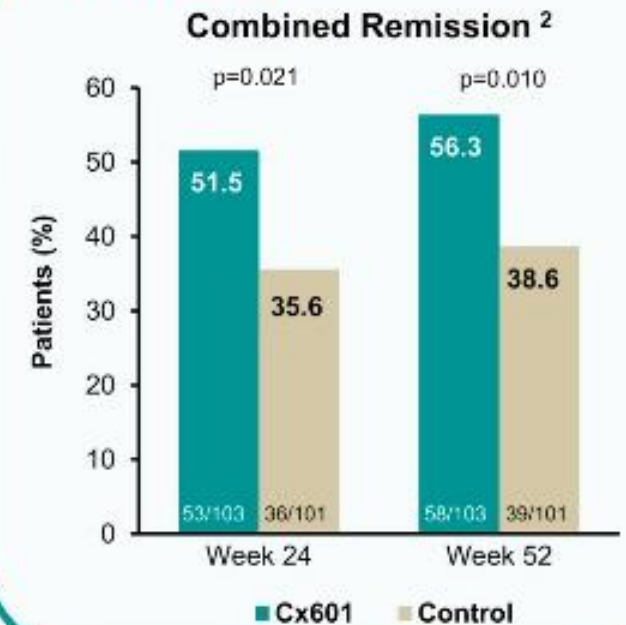
Cx601 is a suspension of allogeneic expanded adipose-derived stem cells (eASC) injected locally, and has been shown to be efficacious and well tolerated in Crohn's disease patients with treatment-refractory complex perianal fistulas

Study design



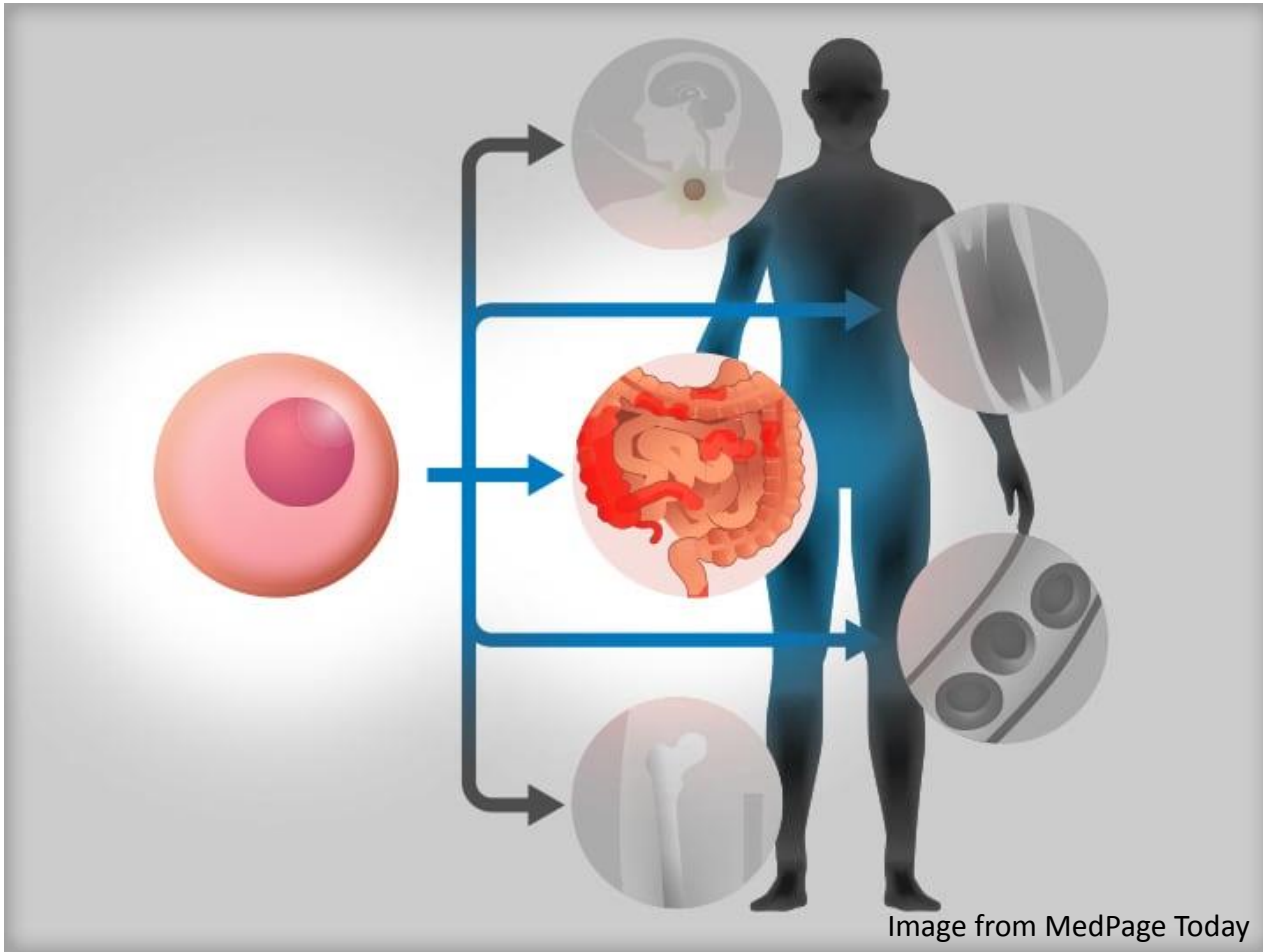
1. Standard of care; 2. mITT population (modified intention to treat)

Efficacy



Gastroenterology

Stem Cell Transplantation for Refractory Crohn's Disease



IBD Management in 2020 and Beyond

PERSONALIZED MEDICINE

Prediction of complicated disease course for children newly diagnosed with Crohn's disease: a multicentre inception cohort study

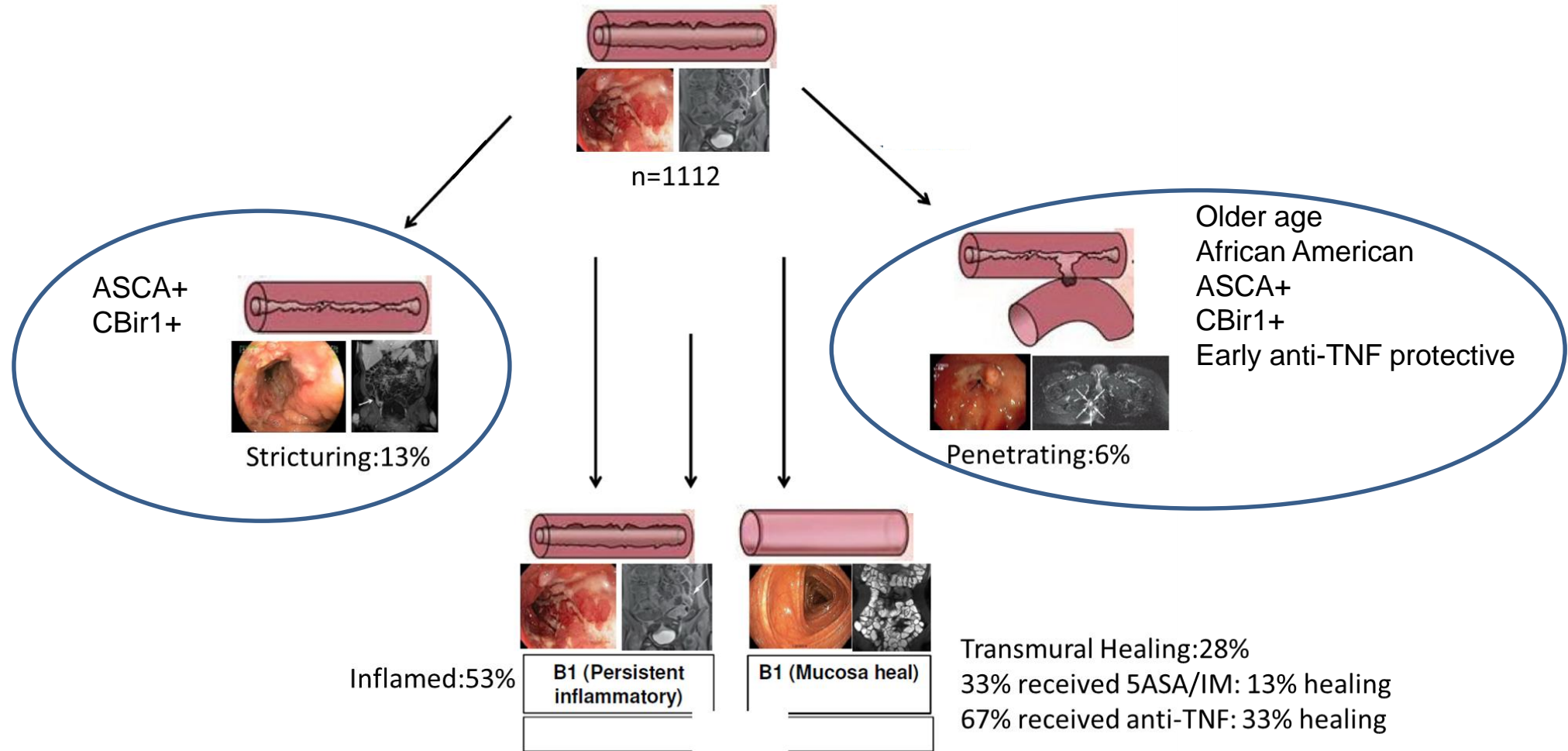
Subra Kugathasan, Lee A Denson*, Thomas D Walters*, Mi-Ok Kim, Urko M Marigorta, Melanie Schirmer, Kajari Mondal, Chunyan Liu, Anne Griffiths, Joshua D Noe, Wallace V Crandall, Scott Snapper, Shervin Rabizadeh, Joel R Rosh, Jason M Shapiro, Stephen Guthery, David R Mack, Richard Kellermayer, Michael D Kappelman, Steven Steiner, Dedrick E Moulton, David Keljo, Stanley Cohen, Maria Oliva-Hemker, Melvin B Heyman, Anthony R Otley, Susan S Baker, Jonathan S Evans, Barbara S Kirschner, Ashish S Patel, David Ziring, Bruce C Trapnell, Francisco A Sylvester, Michael C Stephens, Robert N Baldassano, James F Markowitz, Judy Cho, Ramnik J Xavier, Curtis Huttenhower, Bruce J Aronow, Greg Gibson†, Jeffrey S Hyams†, Marla C Dubinsky†*

Lancet 2017; 389: 1710–18

RISK Study

- Pediatric RISK Stratification Study (RISK) is designed to identify the genetic, microbiological, and immunological factors in children that are predictive of more severe IBD
- 1,100 patients at 28 centers in the United States and Canada have been recruited and enrolled at disease onset and are being followed prospectively for complications and response to therapies

RISK Study: Predictors of Outcomes

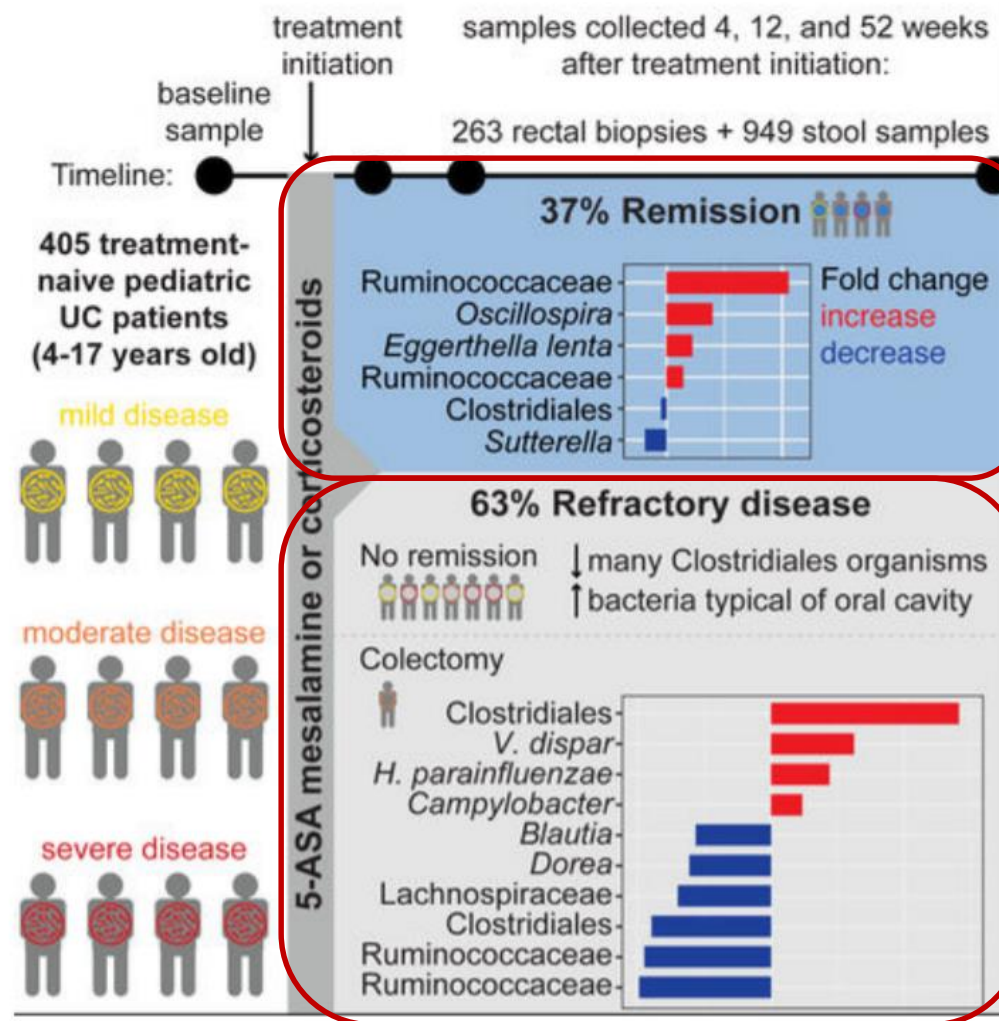


Intestinal Microbiome

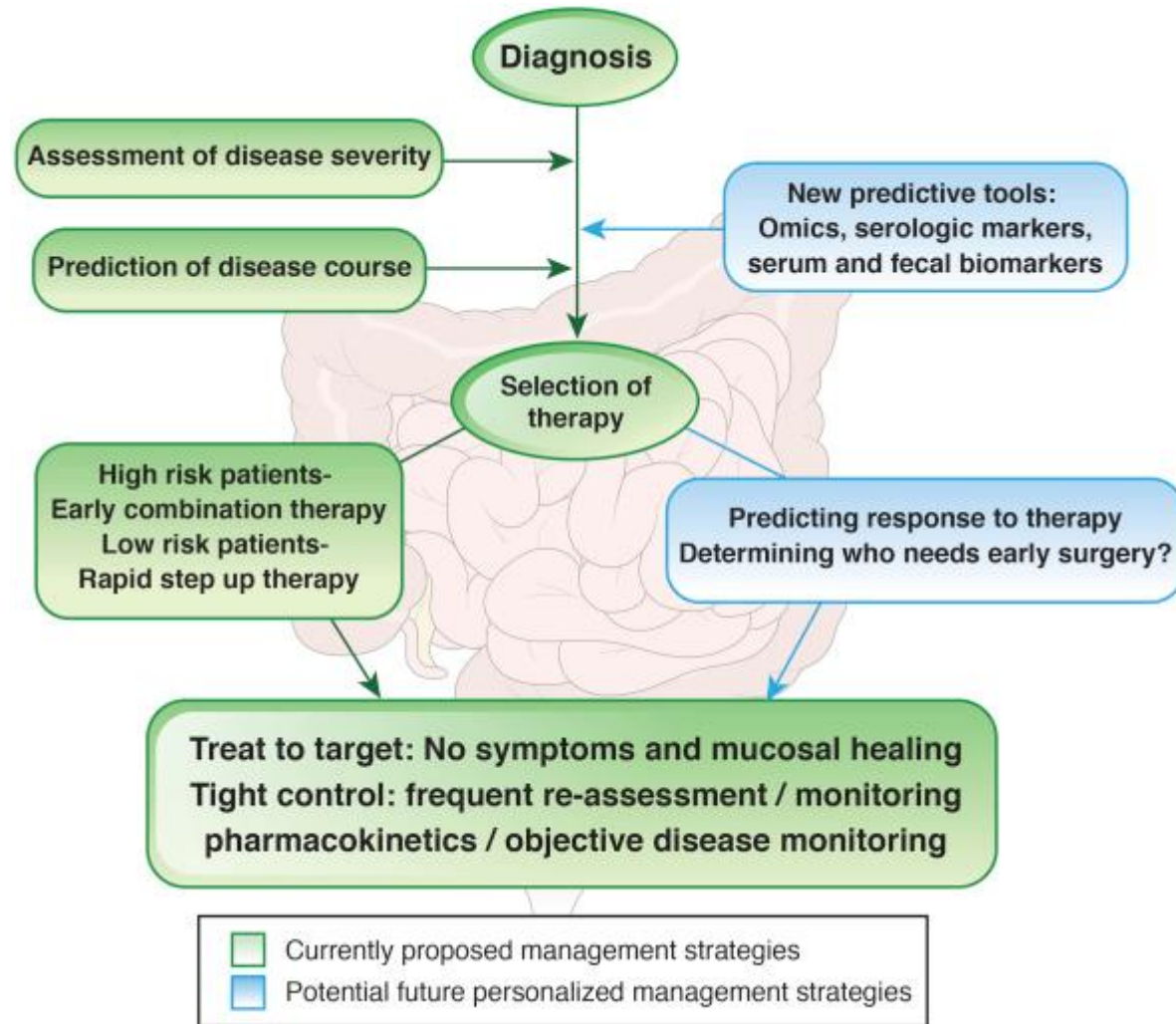
- What role does the **gut microbiome** play in **disease course** of **IBD** patients?
 - Disease severity
 - Treatment efficacy
 - Refractory disease
- Which **factors** are **linked** to **gut microbial dysbiosis**?
- How can we **restore the host-microbial balance**?



Using the Intestinal Microbiome to Predict Disease Course in Pediatric UC



Prediction of Disease Course to Prioritize Early anti-TNF Therapy



Personalized Medicine is the Ultimate Goal

