The Future of IBD Therapy

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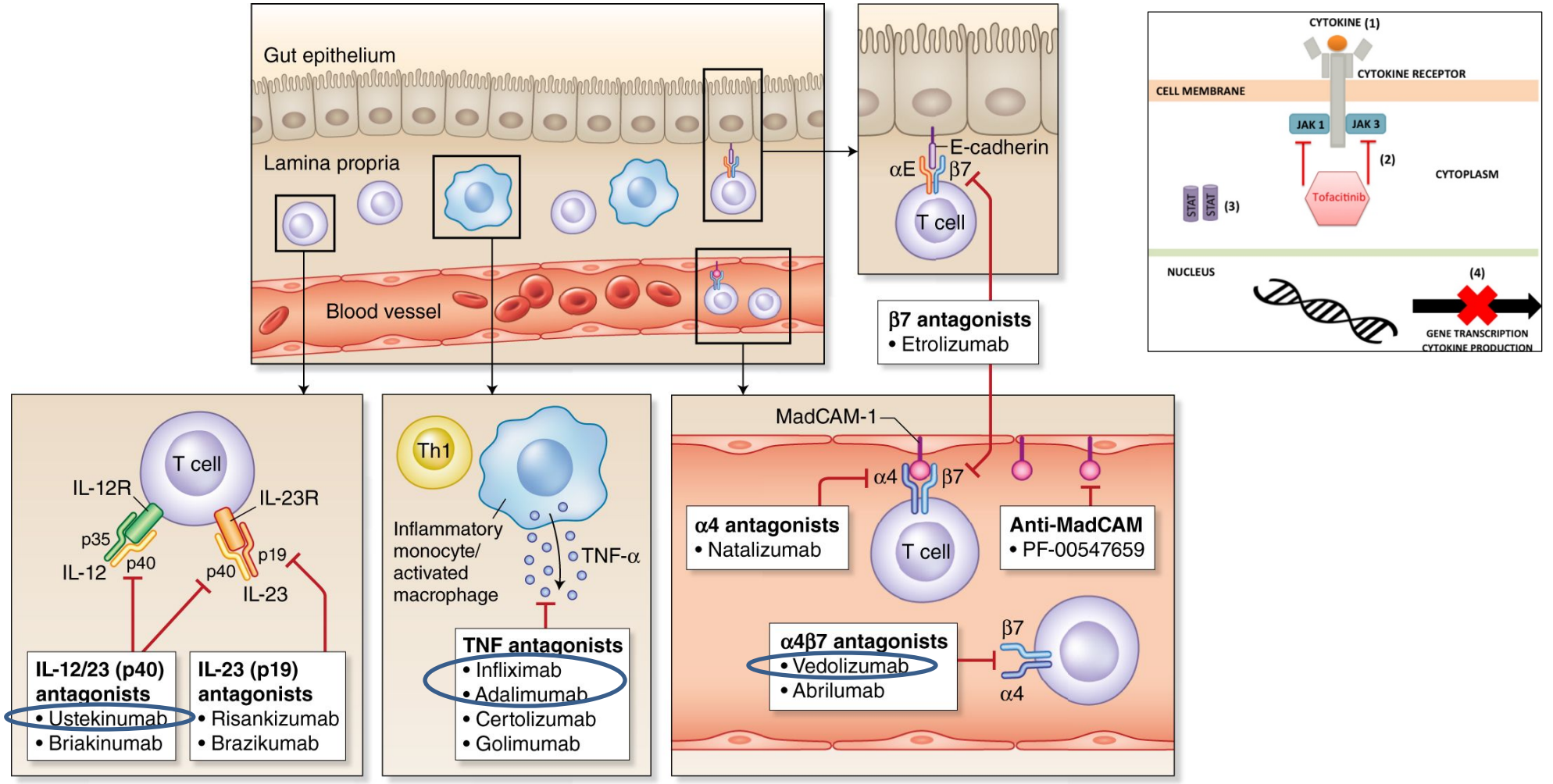
Objectives

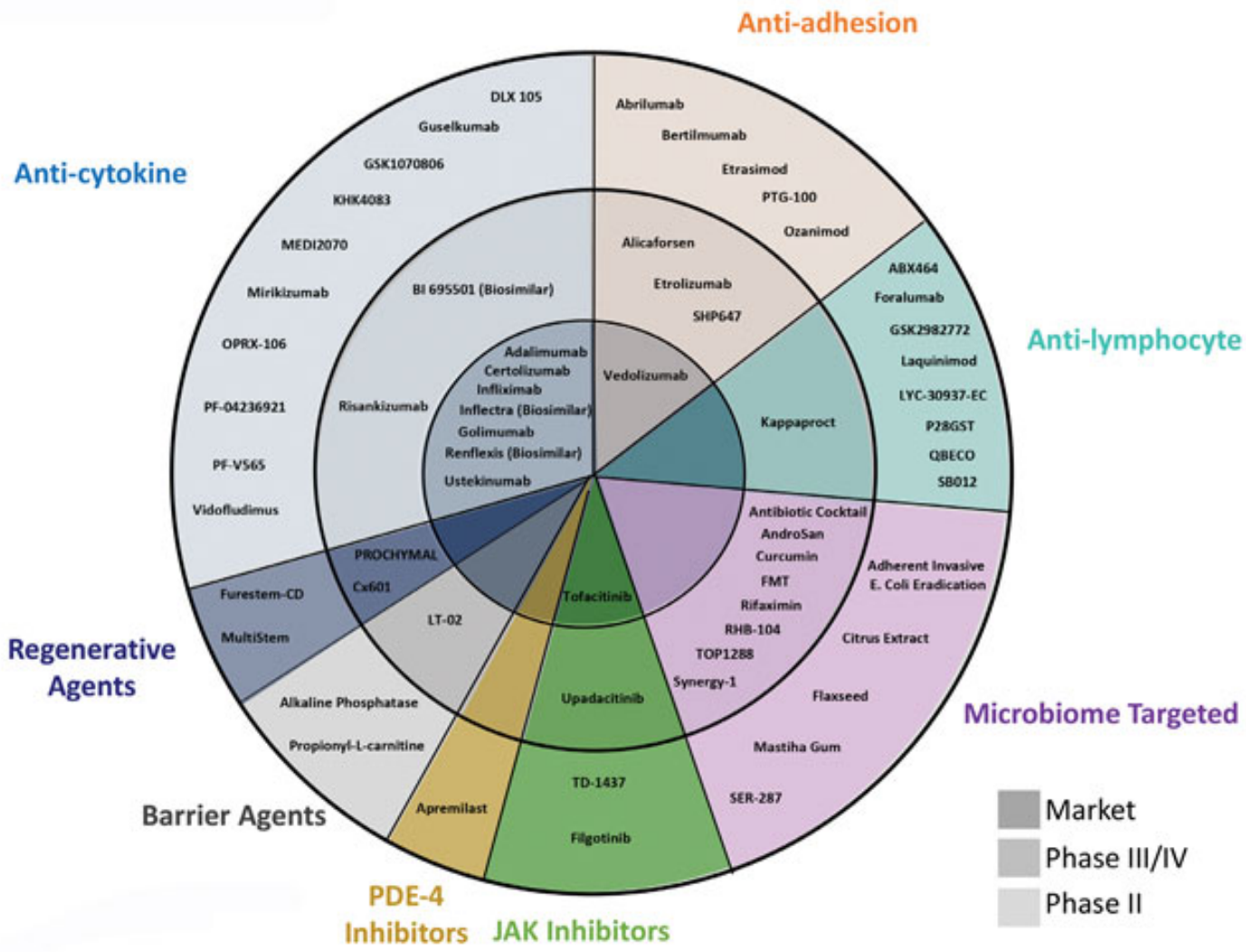
- Review current and future treatment targets in IBD
- Discuss evolving treatment strategies
- Highlight novel non-medication therapies under investigation
- Discuss the role of personalized medicine in IBD therapy

Current Biologic & Small Molecule Therapies for IBD



Paramsothy et al. Mucosal Immunology, 2018
Nwaogu et al. Frontline Gastroenterology, 2020.

New Treatments Under Evaluation



Berinstein et al. Practical Gastro, 2019

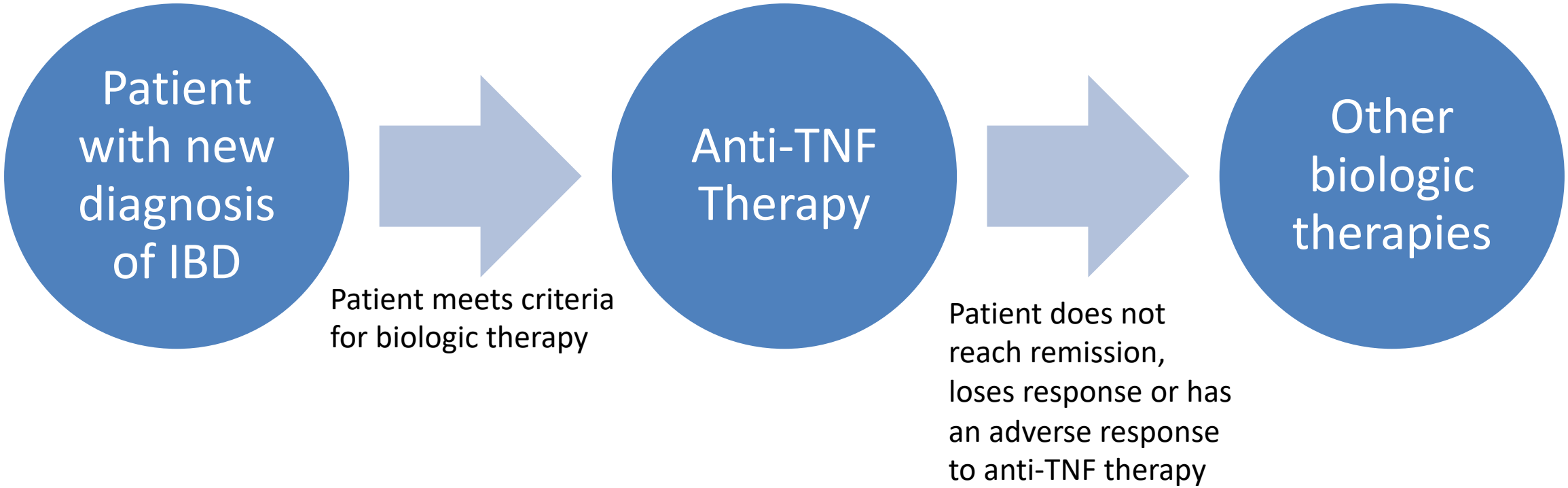
IBD Clinical Trials

- As of Feb 2021: >150 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

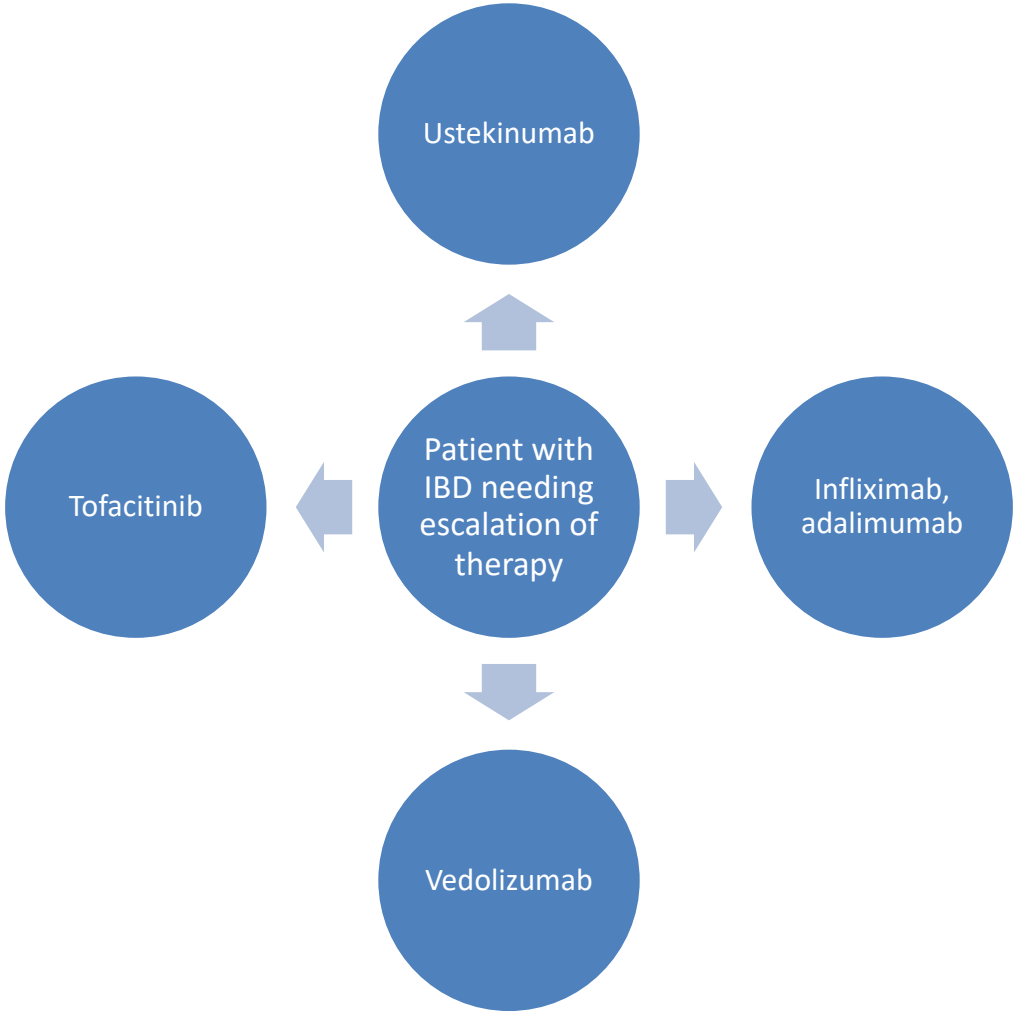
NIH U.S. National Library of Medicine

ClinicalTrials.gov

Current Model for Biologic Therapy Selection

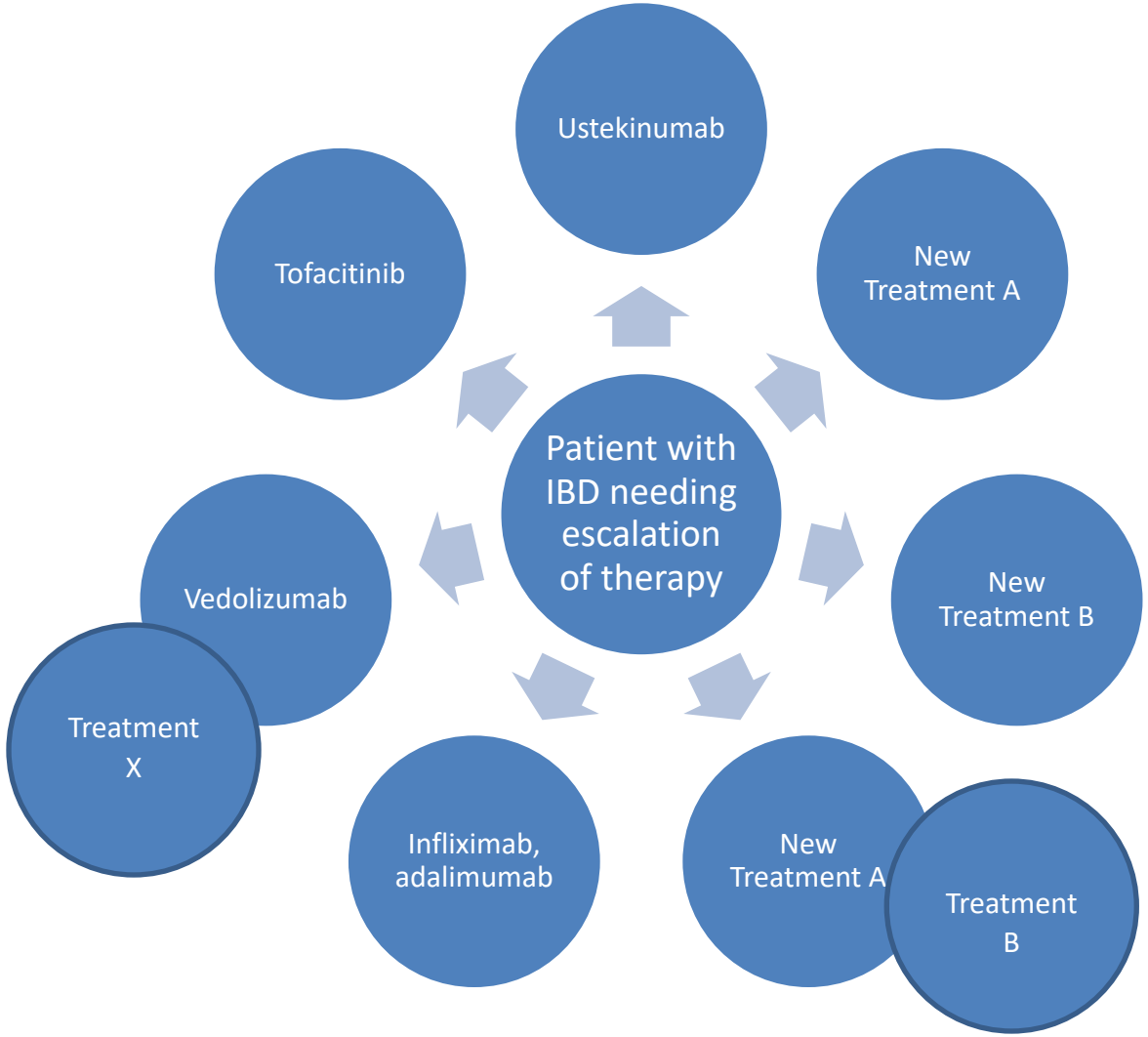


Evolving Model for Therapy Selection



Bilsborough et al. Am J Gastroenterol Suppl, 2016

Future Model for Therapy Selection



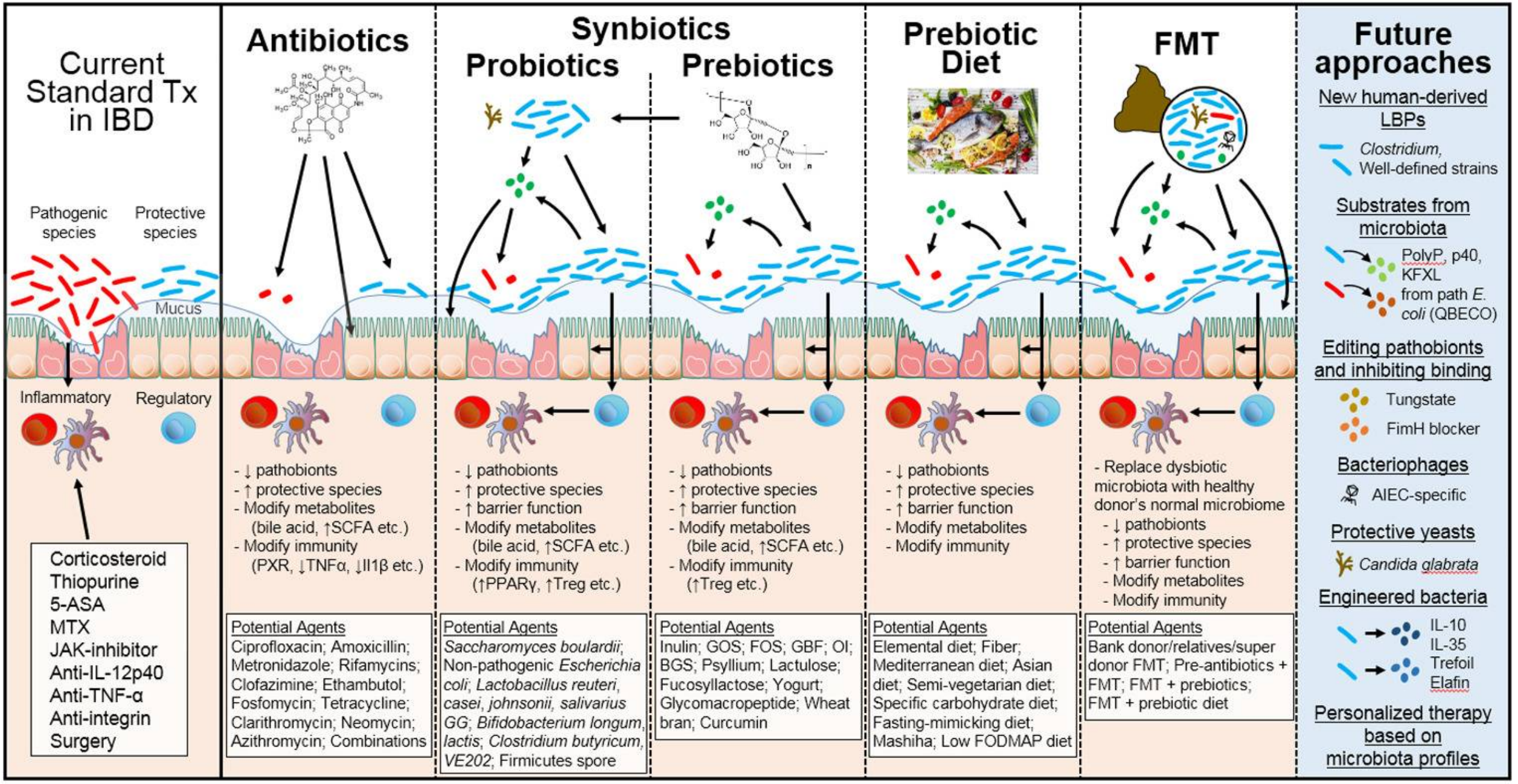
Bilsborough et al. Am J Gastroenterol Suppl, 2016

The W's of Evolving IBD Medication Management

WHO	• Biologic and small molecule therapies are becoming more readily available for more patients
WHAT	• The number of available therapies is expanding rapidly
WHEN	• Many patients are getting treated earlier in their disease course
WHERE	• Hospitals and infusion centers, injections, oral medications
WHY	• To reach clinical and endoscopic remission

Beyond Medications

NEW TREATMENT STRATEGIES FOR IBD



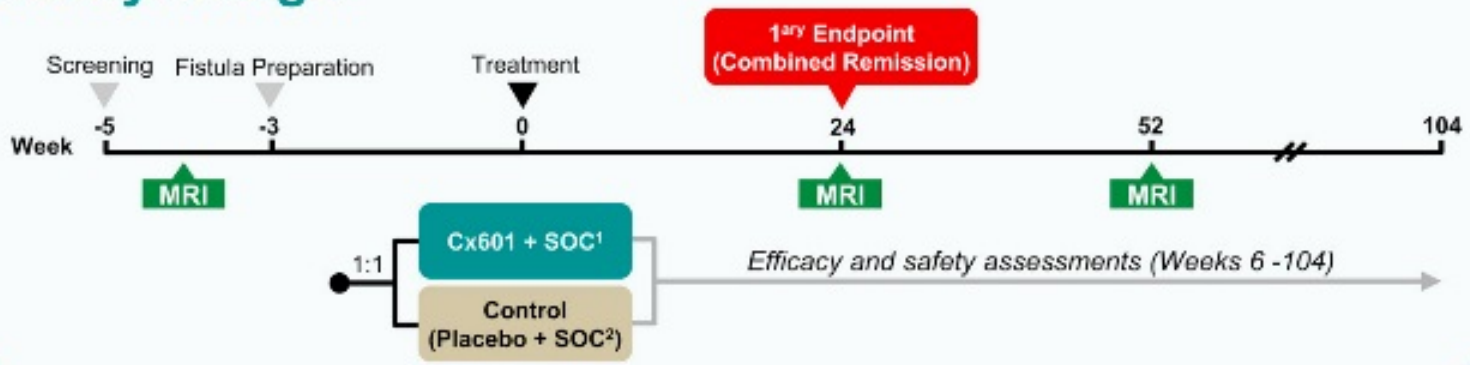
Oka et al. Dig Dis Sci, 2020

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

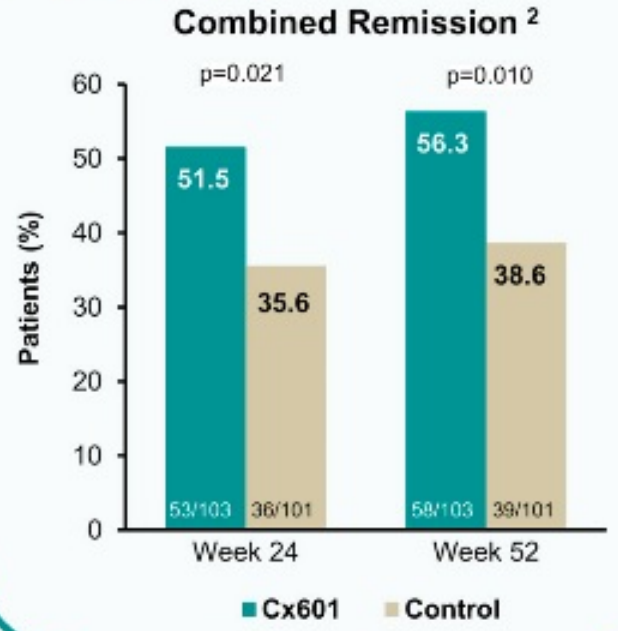
Treatment

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



Efficacy



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

Gastroenterology

Panes et al. Gastroenterology, 2018.

Stem Cell Transplantation for Refractory Crohn's Disease

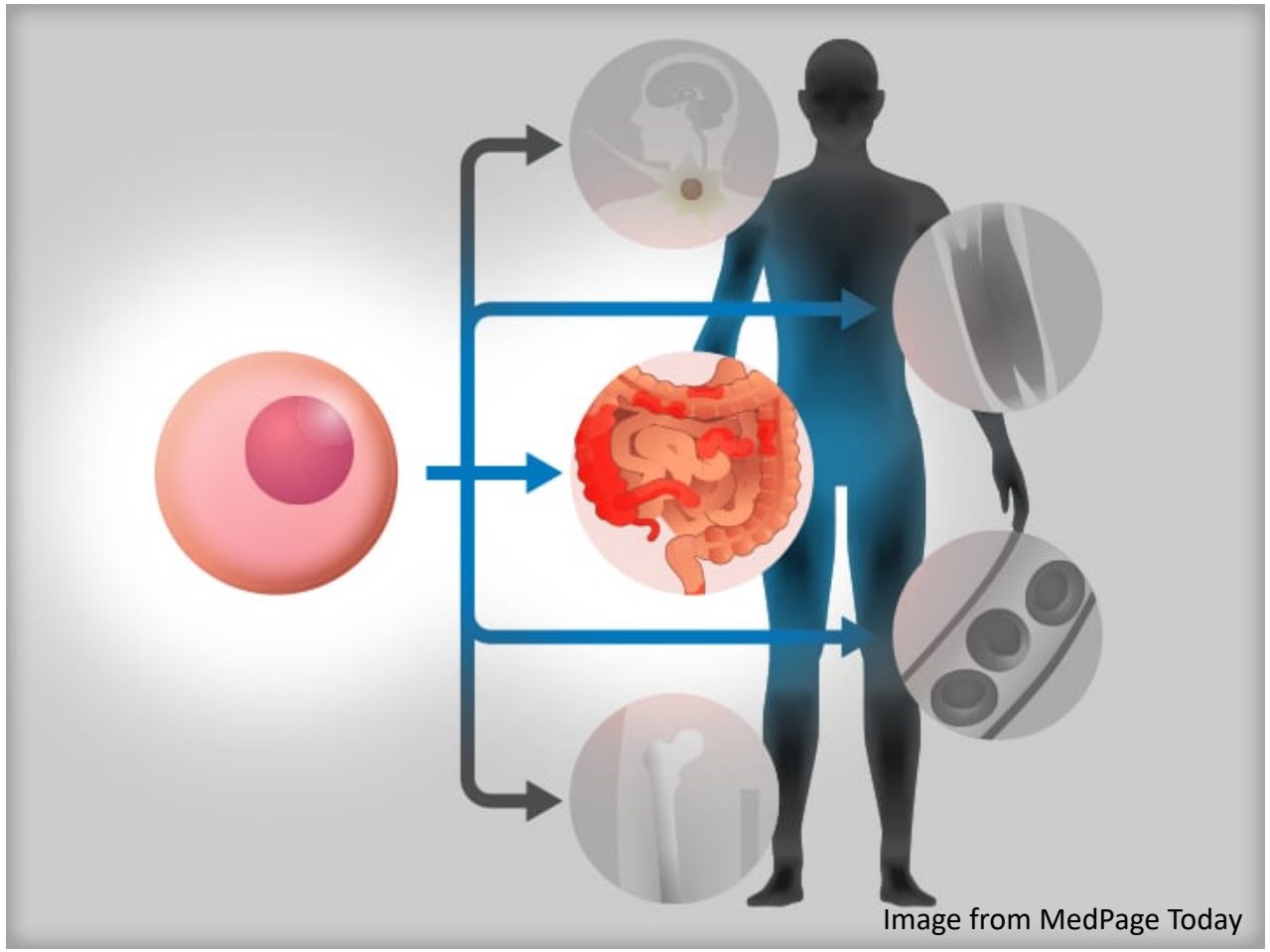


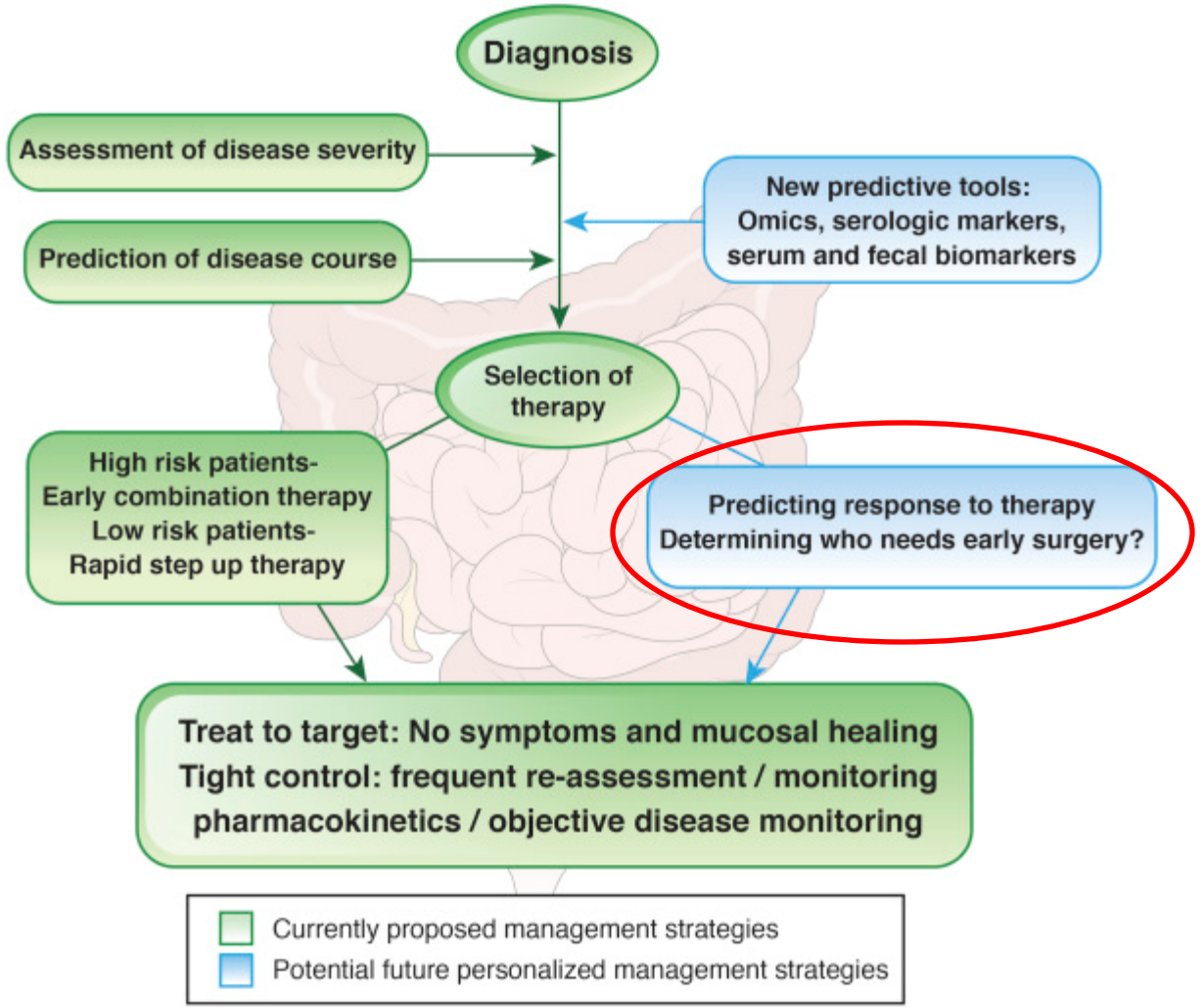
Image from MedPage Today

Icahn School of Medicine at Mount Sinai

IBD Management in 2021 and Beyond

PERSONALIZED MEDICINE

Prediction of Disease Course to Prioritize Early Anti-TNF Therapy



Colombel et al. Gastroenterology, 2017

How Do We Know Who Will Respond?

International Journal of *Molecular Sciences*

MDPI

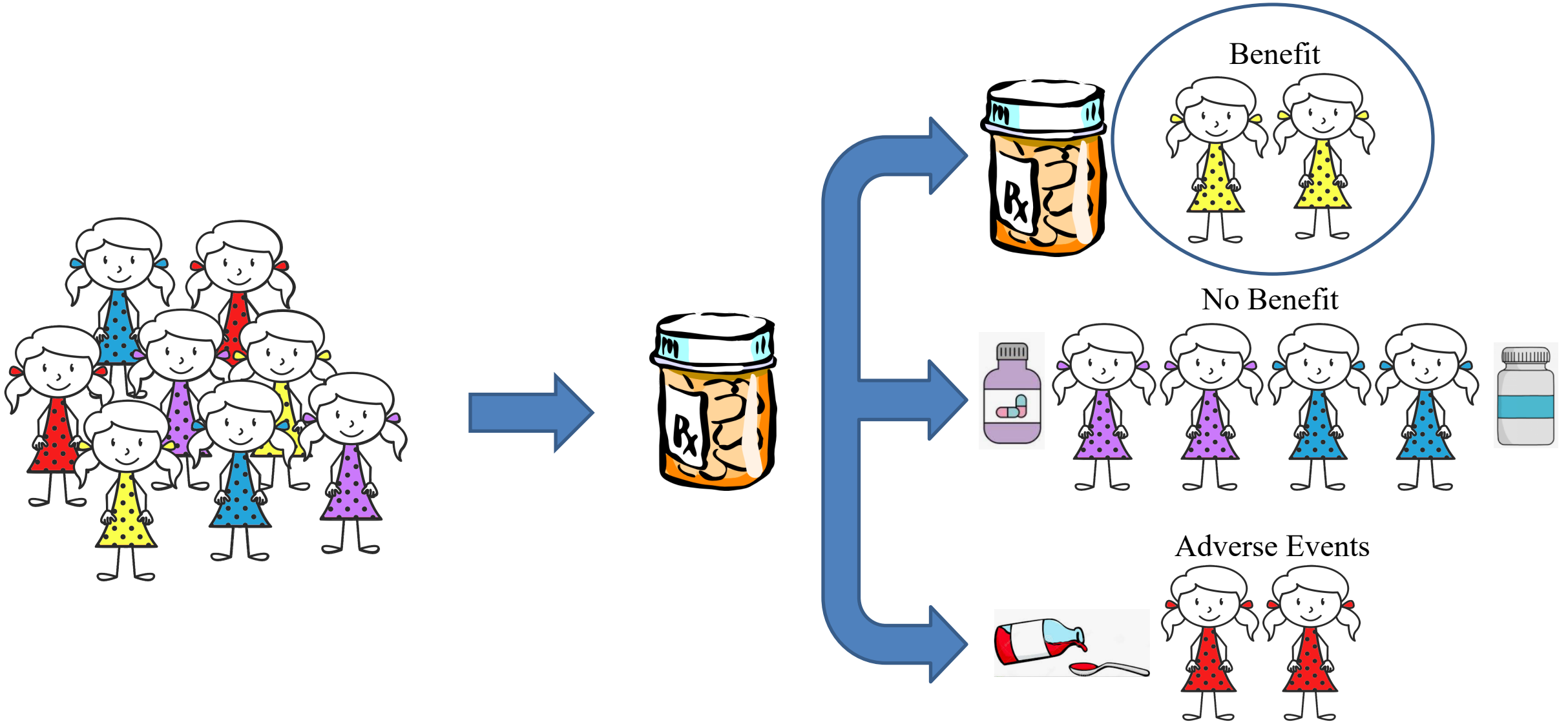
Article

Gene Signatures of Early Response to Anti-TNF Drugs in Pediatric Inflammatory Bowel Disease

Sara Salvador-Martín [1,†], Irene Raposo-Gutiérrez [1,†], Víctor Manuel Navas-López [2], Carmen Gallego-Fernández [3], Ana Moreno-Álvarez [4], Alfonso Solar-Boga [4], Rosana Muñoz-Codoceo [5], Lorena Magallares [6], Eva Martínez-Ojinaga [6], María J. Fobelo [7], Antonio Millán-Jiménez [8], Alejandro Rodriguez-Martinez [9], Concepción A. Vayo [10], Cesar Sánchez [11], Mar Tolin [11], Ferrán Bossacoma [12], Gemma Pujol-Muncunill [13], Rafael González de Caldas [14], Inés Loverdos [15], José A. Blanca-García [16], Oscar Segarra [17], Francisco J. Eizaguirre [18], Ruth García-Romero [19], Vicente Merino-Bohórquez [20], María Sanjurjo-Sáez [1] and Luis A. López-Fernández [1,*]

Conclusion: Expression of the SMAD7 gene is a pharmacogenomic biomarker of early response to anti-TNF agents in pediatric IBD. TLR2 and DEFA5 need to be validated in larger studies.

Personalized Medicine is the Ultimate Goal



Slide courtesy of Dr. Noor Dawany

Conclusions

- Many new therapies are under investigation
- The way we use the current therapies is evolving
- The future of IBD therapy is bright