

Exploring *Clostridioides difficile* Infection and Microbiome Therapeutics



Clostridioides difficile continues to be a public health concern in the United States, where the Centers for Disease Control and Prevention designated it to be an urgent threat several years ago. *C difficile* infection is currently increasing in both hospitals and the community and is the leading cause of hospital-acquired diarrhea. In a review article in this month's issue of *Gastroenterology & Hepatology*, Dr Brent J. Gaway and Dr Sahil Khanna note that the clinical and economic burdens of *C difficile* infection are significant concerns both nationally and globally. The authors review the pathophysiology, recurrence, and current treatment of *C difficile* infection as well as the relationship between the microbiome and *C difficile*. They also examine the successes and pitfalls of fecal microbiota transplantation and explore the emerging therapeutic approach of standardized microbiota restoration therapies, which include synthetic oral therapies or stool-derived therapies that are oral or that involve enemas. To date, 2 stool-derived microbiota restoration therapies have been approved by the US Food and Drug Administration for the prevention of recurrent *C difficile* infection.

This month's issue also features two articles involving irritable bowel syndrome (IBS). Our Advances in IBS column examines conditions that overlap with IBS. Along with other issues, Dr Gerald Holtmann discusses the underlying disease mechanisms in the pathophysiology of IBS, as well as overlaps between this disease (or other disorders of gut-brain interaction) and functional dyspepsia, gastroesophageal reflux disease, inflammatory bowel disease (IBD), and nongastrointestinal conditions. In our Case Study Series, Dr Anthony J. Lembo presents a patient who has IBS with constipation (IBS-C). He reviews this case and provides a comprehensive overview of IBS (including the 4 distinct subtypes) as well as the various options for pharmacologic treatment of patients with IBS-C.

Our Advances in Endoscopy column features a timely interview on diversity, equity, and inclusion in endoscopy with Dr Jennifer A. Christie, president of the American Society for Gastrointestinal Endoscopy. She discusses why diversity matters, society initiatives for improving diversity, the minority tax and how it can be lifted, the

effects of gender disparities on mentees and mentors, and unconscious bias, along with other important issues.

Authored by Dr James P. Hamilton, our Advances in Hepatology column focuses on the management of pain in patients who have liver disease. His discussion includes common sources of pain in liver disease patients, the evaluation of pain in these patients, common challenges, the safety of different classes of pain medicines in the setting of liver disease, and comanagement with pain management specialists.

Our NASH in Focus column highlights the potential use of artificial intelligence (AI) in the evaluation of liver histology in patients with nonalcoholic steatohepatitis (NASH). Professor Quentin M. Anstee discusses how well AI assessment correlates with human assessment, its theoretical advantages and limitations, and its histologic detail. Among other issues, he also predicts whether AI will eventually be widely used in the assessment of liver histology in NASH and examines other applications that AI may have in this disease setting.

Postoperative management of Crohn's disease is explored in our Advances in IBD column. Dr Miguel Regueiro discusses both endoscopic recurrence and clinical recurrence of Crohn's disease after surgical treatment, the main risk factors for recurrence, the current role of prophylactic therapy and its optimal timing for initiation, and how patients should be monitored following surgery, along with related topics.

Finally, our quarterly content partnership with the Crohn's & Colitis Foundation continues with a patient resource spotlight on its Electronic Medical Records (EMR) IBD Education Tool. Readers can scan the QR code on page 312 for educational materials for patients that can be integrated into common EMR systems.

I hope that you enjoy these articles and find them interesting and clinically useful.

Sincerely,

Gary R. Lichtenstein, MD, AGAF, FACP, FACG