UC San Diego School of Medicine

Division of Gastroenterology & Hepatology

Edition: August 2020

Message from the Chief:

Dear Colleagues and Friends,

Welcome to the August 2020 edition of the UCSD Gastroenterology & Hepatology newsletter. In these challenging times, I hope you are staying safe and healthy.

It is with great pride I announce that the UC San Diego Health ranked No. 1 in San Diego and No. 6 in California, placing it among the nation's best hospitals, according to the *2020-2021 U.S. News & World Report*. In addition, UC San Diego Health ranked No. 1 in San Diego and No. 6 in California, placing it among the nation's best hospitals.

I am thankful for our faculty and staff's unwavering commitment to providing world-class patient care, education and research. They have shown incredible innovation, determination and resilience during this major pandemic and I am honored to be a part of the UCSD Gastroenterology & Hepatology community.

In the last few months, we have all been adjusting to life and the "new normal." Amid the Coronavirus Pandemic, our faculty and staff have adapted to this fluid situation in a mass transition to telehealth, closing clinics and then safely reopening the clinics. We have reopened our extensive research operations at a safe and limited capacity by following social distancing and sanitation protocols. Additionally, we have maximized remote work opportunities for faculty and staff to maintain operations with their safety in mind and continue to build a strong program to educate future leaders in Gastroenterology & Hepatology.

In this issue I will introduce you to our incoming first year fellows and advanced fellows, say farewell to our graduates, introduce our newest faculty, Shravan Dave, MD and provider/researcher Matthew Tsai, MD. I would also share some of our accolades, research updates and spotlight some of our stand-out faculty & staff: Amir Zarrinpar, MD, Ravinder Mittal, MD and Christine Dimalanta MA.

We welcome your feedback, ideas and news for future issues of this newsletter — please connect with us at j7jones@health.ucsd.edu. Visit our website to learn more about our compassionate, comprehensive and innovative patient care, research, and educational programs. I wish you, your families and your loved one's good health and safety during these extraordinary times.

With warm regards,

William J. Sandborn, MD
Distinguished Professor of Medicine
Chief, Division of Gastroenterology
Director, UCSD IBD Center, UC San Diego Health System

BEST HOSPITALS USNews RANKINGS — National Ranking — 10 Adult Specialties

BEST REGIONAL HOSPITALS USNews RANKINGS — Regional Ranking — #6 in California, #1 in San Diego

HIGH PERFORMING HOSPITALS USNews — High Performing — 8 Procedures/Conditions

Inside the Edition

Digital Diagnosis: Clinical Care during the Covid-19 Pandemic

By the time the Covid-19 pandemic had become a major cause for concern in San Diego, the Division of Gastroenterology and Hepatology had been exploring the use of TeleHealth for weeks. So, when UCSD announced the use of TeleHealth was live for all departments on March 16th, we were ready. Practice Manager Mercedes Roberts held multiple trainings with providers and clinical staff on the use of Telehealth, equipment requirements, and consent and billing requirements. The clinical staff began calling, educating patients and converting as many patients as possible to video visits. By the end of the week, 143 patients had been converted to virtual care. The following week, GI and Hepatology were 97% virtual.

We found that not only were we able to provide the same level of care to our virtual patients, TeleHealth proved to be even more efficient for both providers and staff. So much so, that we volunteered to be part of the TeleHealth Optimization Work Group to produce standard work surrounding every aspect of scheduling and hosting video visits, effectively streamlining the virtual patient experience across all of UCSD.

As efficient as TeleHealth is, there are patients with certain levels of acuity that need to be seen in person. Exactly 8 weeks after converting to virtual care, we opened our doors to see those patients. Our division took every precaution possible: proper PPE, 6-foot distancing, extra cleanings in the lobbies and exam rooms, single paths of travel through the clinic space, sneeze guards for the front desks, doffing stations, and multiple screenings. We took it a step further and adjusted our provider templates to level-load our clinics and ensure we could effectively and safely see patients in person.

Today we remain a mixture of in-person and virtual care, seeing each of our patients in the most effective and safest manner and exploring how virtual care can help us grow our practice. While the Covid-19 pandemic has not always been easy to navigate, our division has handled it with grace. And for whatever else 2020 may bring to the table, again, we'll be ready.

WELCOME SHRAVAN DAVE
TRANSPLANT HEPATOLOGIST

A warmest welcome to our newest faculty member, Dr. Shravan Dave, who is joined our division this summer as a transplant hepatologist. Most of you already know Shravan as the most recent graduate of our combined three-year Gastroenterology and Transplant Hepatology fellowship program. Originally from the east coast, Shravan pursued his undergraduate degree at Rutgers University, followed by medical school at the University of Pittsburgh School of Medicine. He subsequently relocated to California for internal medicine residency at the University of California, San Francisco (UCSF), before moving to UCSD in 2017 for his gastroenterology fellowship. As a UCSD fellow, he has represented our division at numerous national events, most recently winning the national debate championships with co-fellow Dr. Abbey Barnard at the American Association for the Study of Liver Diseases (AASLD) meeting in November 2019. Over the past three years, he has co-authored peer-reviewed publications in the field of liver transplantation, viral hepatitis, and non-alcoholic fatty liver disease. Outside of the clinical setting, he enjoys trying out new restaurants, collecting credit card miles, and strolling along the beach with his wife Pragna and dog Pixie.

WELCOME MATTHEW TSAI
GASTROENTEROLOGY PHYSICIAN-SCIENTIST

Matthew Tsai is a gastroenterology physician-scientist with a research focus on mucosal immune responses in the gut. Matthew received his undergraduate degree from University of Pennsylvania, where he started his research endeavor, which he continued after graduation at the NIH/National Human Genome Research Institute. He subsequently received his medical degree and doctorate at the University of Miami Miller School of Medicine. He continued his medical training at UC San Diego, entering the UC San Diego's Internal Medicine Physician-Scientist Residency program. After 2-years of residency training, Matt transitioned to his Gastroenterology fellowship training. As a fellow he was supported by the NIH T32 training grant while doing basic science research investigating mucosal immune responses. When not in the lab, clinic, or endoscopy suite, he enjoys exploring the many unique food places in San Diego county. Matthew is excited to continue his career in San Diego with his wife Lindsay, daughter Mali (6 years old), and son Dade (3 years old).

Faculty Spotlight: Ravinder (Ravi) Mittal MD

Ravinder (Ravi) Mittal MD, is a professor of medicine at the University of California San Diego since 1997. He went to medical school at the University of Delhi, Maulana Azad Medical College, completed his internal medicine training at the New York Medical College, and GI clinical and research fellowship at Yale University. His first faculty position was at the University of Virginia (1985) where he stayed till 1997. Ravi is a physician scientist, clinician first, with interest in the motility disorders of the GI tract. He He sees patients at, San Diego VA medical center and Perlman clinic in La Jolla. He was the director of GI motility laboratory until recently which he nurtured since his arrival to UCSD. UCSD had become a major referral center for the upper and lower gut motility disorders for the greater San Diego area. At San Diego VA, he runs an esophageal and GI motility clinic, a major teaching site for all UCSD GI fellows.

Ravi's long time research interest is in the neuromuscular control of the lower esophageal sphincter and esophageal peristalsis. A series of studies in late 1980's and early 90's unraveled the role of esophageal hiatus (formed by the right crus of the diaphragm) as an antireflux barrier, with a landmark review article in New England Journal of Medicine in 1997. Longitudinal muscles of the esophagus, comprise one half the muscle mass of the esophagus, and its function was not known. From mid-1990's to present, Ravi has stayed focused on the role of longitudinal muscles of the esophagus in the physiology of esophageal peristalsis and its dysfunction in the genesis of esophageal symptoms such as heartburn, chest pain and dysphagia. More lately, his work shows that motor neurons of the enteric nervous have mechanosensory properties which links the longitudinal muscles to the descending relaxation of peristaltic reflex in the esophagus, and likely in the entire GI tract. Unique aspect of his work is that it goes back and forth between bench and bedside, it spans studies in whole humans to single neurons of the myenteric plexus in the culture system. Whether dysfunction of the lower esophageal sphincter is the cause of all esophageal motility disorders has been on his mind since he was a GI fellow at Yale and it seems that its ultimate evidence is around the corner. A recent paper in the journal "Gastroenterology" describes that dysfunctional hiatus may be the primary cause of achalasia esophagus and possibly other motility disorders of the esophagus.

Since 2005, he has expanded his research repertoire to the sphincter mechanism at the lower end of gut also, uncovering the role of pelvic floor muscle in the continence mechanism. Ravi has challenged the long held dogmas in the anatomy and physiology of the lower end of the gut. These studies span several disciplines of medicine that include, colorectal surgery, urology, obstetrics, gynecology and radiology. He foresees that these new concepts will lead to preventive and therapeutic strategies for fecal and urinary incontinence.

Spanning a period of 35 years, he is the primary author of 200 original publications, book chapters and review articles. Ravi's laboratory has been funded continuously by NIH since 1988, and since early 2000 by two RO-1 grants and VA-MERIT grant. He was recently invited by the NEJM to write a review article on the pathophysiology of the esophageal motor disorders (in works). Ravi believes that his best work is yet to come! He attributes his success to his research team, one of whom has been working with him for the last 15 years.

Updates from the San Diego Digestive Diseases Research Center (SDDRC)

The San Diego Diseases Research Center has grown bigger, adding five new members for a current total of 51 members. The Center would like to welcome the following new members:

- **Shujuan Chen, Pharm. D, PhD**
- **Debanjan Dhar, PhD**
- **Jack Gilbert, PhD**
- **David Gonzalez, PhD**
- **Cristina Llorente, PhD**

In addition, the Center would like to welcome Mojgan Hosseini, MD, the new Human Translational Core Pathologist and Sven Heinz, MD, new Co-Director of Microbiomics and Functional Genomics Core

Congratulations to the 2019-20 Technology awardees:

In addition to providing $250,000 for Pilot &Feasibility awards, the Center awarded a $25,000 Technology Development Grant to Jack Gilbert, PhD, Professor, at UCSD Department of Pediatrics for:

Project Title: "Host depletion and benchmarking guidelines for mucosal biopsy microbiome studies"

The next round of Pilot &Feasibility grants for the academic year 2020-21 will be announced in the fall of 2020

SDDRC Seminars:

The Center's last seminar on "Cellular and molecular passage from the small intestine through blood and lymphatic vessels in health and disease" was presented on 7/27/20 by Gwendalyn J. Randolph, PhD, Emil R. Unanue Distinguished Professor, Dept. of Pathology & Immunology Head, Immunology Graduate Program at the Washington University School of Medicine.

The next SDDRC seminar is scheduled for 8/31/20, on "Gut Endocrinopathies and Novel Mediators of Neurogenin-3 Stability" will be presented by Martin G. Martin, MD, Director, UCLA Center for Pediatric Diarrheal Diseases, Professor of Pediatrics at UCLA Medical Center.

The SDDRC website includes detailed information regarding upcoming monthly seminars. The SDDRC website includes detailed information regarding upcoming monthly seminars.

SDDRC Workshops:

The Center's last workshop scheduled on 7/15/20, on "Disclosure of Foreign Collaboration to NIH and UCSD" was led by Erika Wilson Sr. Director Health Sciences Sponsored Project Pre-Award Office and

Updates from the SDDRC Continued

Health Sciences Research Service Core, and Rachel Cook, M.A., Sr. Grant Analyst Supervisor Health Sciences Sponsored Project Pre-Award Office. The entire presentation is posted on SDDRC website.

The next SDDRC workshop is scheduled for 10/15/20 from 4:00pm-6:00pm on "Academic Career Advancement at UCSD". The workshop will be led by Kim Barrett, PhD, and Thomas Savides, MD, Professors of Medicine at UC San Diego. This workshop is targeted towards junior faculty members.

SDDRC Symposium:

The Center hosted its 1st symposium on 2/28/2020. Topics included host microbial interactions in GI tract and mechanism in liver injury, presented by several distinguished UCSD and external speakers. Due to challenges associated with COVID 19, the Center will host the next symposium on 2/5/21 via Zoom.

The Center created a Twitter account and has been posting important news on both the SDDRC website as well as the SDDRC Twitter account. Please follow us on Twitter: https://twitter.com/SDDRC.

Please visit our website http://sddrc.ucsd.edu for up-to-date information about the Center and its upcoming events. Please send all questions to sddrc@health.ucsd.edu.

Here is a pic of the POEM team. Left to right in the picture: Endoscopy Tech Francis Cortez, RN Lori Branstetter, Dr. William Sandborn, Dr. Abbas Fehmi, Dr. Rena Yadlapati, RN Erin Cerney and Endoscopy Tech Ana Newman

POEM procedure

Dr. Fehmi did the first POEM procedure (peroral endoscopic myotomy) by a gastroenterologist at UCSD in Thornton Special Procedures on June 12th. This represents how the capabilities of interventional endoscopy have significantly increased over the last several years. POEM procedure is an example of submucosal or 3rd space endoscopy. The majority of 3rd space endoscopy procedures can be performed in the endoscopy suite and provide minimally invasive options for our patients. Other examples of procedures already being performed by us as minimally invasive alternatives to surgery include endoscopic submucosal dissection, endoscopic full thickness resection, endoscopic necrosectomy, etc.

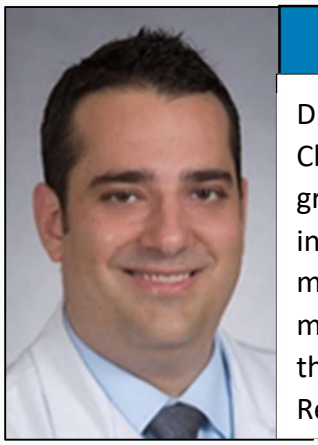
Awards & Recognitions

Dr. Schnabl became the Associate Editor of "Journal of Hepatology", which is #1 ranked journal in the field of gastroenterology and hepatology. The new impact factor is 20.6.

Barbara Andrews, NP, was awarded with the AF-AASLD designation and being a part of the inaugural class of Associate Fellows

Lisa Richards, NP, was awarded with the AF-AASLD designation and being a part of the inaugural class of Associate Fellows

Angelina Collins, NP was selected from a competitive pool of applicants to serve as an Ambassador at the Advances in IBD Meeting, December 2020 and 2021, in Orlando, Florida.



Dr. David Kunkel was selected to receive a 2020 Chief Resident Teaching Award from the graduating chief resident class! This is an incredible honor, as each chief chooses one faculty member to recognize for the inspiration, guidance, mentorship and support they have provided to them throughout their 4 years in the UCSD IM Residency program.

The American Association for the Study of Liver Diseases Foundation (AASLD Foundation) selected Dr. Sonja Lang, postdoctoral fellow in Dr. Schnabl's lab, to receive the 2020 Clinical and Translational Research Fellowship Award.

Dr. Thomas Savides was named in the inaugural class of recipients of the American Society for Gastrointestinal Endoscopy designation of Master of the American Society for Gastrointestinal Endoscopy (MASGE). This recognition reflects substantial contributions to the goals and ideals of the gastrointestinal profession, sustained throughout long-term excellence in medicine, education, research, practice support, quality, and/ or advocacy.

Staff Spotlight: Christine Dimalanta, MA

Christine Dimalanta has been with UC San Diego Health for 10 years and has worked in psychiatry and billing before joining gastroenterology 8 years ago. She started off as a call center agent for GI and is now the template analyst for both GI and Hepatology. She manages the opening and closing of provider clinic templates, provider procedure templates, and the motility test templates. She works closely with leadership and the Epic analysts to make sure the templates are built optimally. She also assists Chenoa Wilson, manager of Gastroenterology/Hepatology Care Navigation Hub (CNH), with the day to day operations. Christine has been involved in several projects with the most important being a part of the planning and implementation of the CNH pilot in GI. She received her Bachelor of Arts in Psychology with a Minor in Public Health from San Diego State University and her Master of Public Health with a Specialization in Healthcare Administration from National University. One day, she hopes to receive a Six Sigma certification. Christine is grateful to be a part of and work with an amazing team of people. When she is not at work, she enjoys traveling, baking, and spending time with her family.

Faculty Spotlight: Amir Zarrinpar, MD, PhD

What role does the gut play in obesity? What are the signals the gut uses to tell the rest of the body about what's coming in? How do the microorganisms in the gut manipulate these signals to affect metabolism and other physiological processes? How can a gastroenterologist manipulate these signals to treat diseases? These are some of the questions that Amir Zarrinpar, MD, PhD, studies in his laboratory and his clinical practice. After starting his laboratory in the Altman Clinical Research Institute in 2017, Dr. Zarrinpar and his group have been working understanding how the gut microbiome can affect host metabolism. The main theory of the lab is that insults that lead to obesity, such as high-fat diets, affect the feeding pattern of the mice. This feeding pattern not only affects which gut microbes are present in the lumen, but they also affect the circadian fluctuations of the gut microbiome. Interestingly, circadian rhythms rely on the normal fluctuations of the gut microbiome. Thus, insults that affect the microbiome usually also affect host circadian rhythms. Many of insults that lead to obesity affect multiple physiological systems (e.g. fatty liver disease, insulin resistance, dyslipidemia) which is a manifestation of the circadian dyssynchrony between multiple physiological and organ systems. His lab is working on better understanding the relationship of the gut microbiome and host circadian rhythms and how the two can conspire together to affect a number of pathologies.

Continued
Faculty Spotlight: Amir Zarrinpar, MD, PhD

Dr. Zarrinpar actually started in a field completely unrelated to gastroenterology. He received his bachelors in cognitive neuroscience at Harvard University working on visual mental imagery in the laboratory of Stephen Kosslyn. He was initially drawn to UCSD to do his MD/PhD based on the strength of the neurosciences program. His PhD thesis was focused on the role of deep cortical layers in visual processing. When he returned to his clinical training, a chance encounter with Dr. John Carethers convinced him that the approaches that he learned in the neurosciences could be adopted to the gut, and he decided to further his career by applying to physician scientist training program after medical school. As he spent more time in clinic, he realized the drastic toll obesity was taking on the health of his patients and was excited by the increasing role that gastroenterologists were taking to treat these patients. He decided to switch his research interest from gut motility to gut signaling and metabolism.

Dr. Zarrinpar performed his post-doctoral training in the laboratory of Satchidananda Panda at the Salk Institute. Dr. Panda's lab investigated the role of circadian rhythms in metabolism and had just started a series of experiments that looked at the circadian rhythms of organs besides the brain. He arrived at that lab just as it was beginning to discover the concept of time-restricted feeding. Dr. Zarrinpar and his colleague showed that, while mice who on a regular diet tend to eat all of their calories at night (since they are nocturnal creatures), mice who were given a high-fat diet tended to spread their food intake throughout day and night. This in turn resulted in their circadian rhythm machinery to be heavily debilitated. Thus, they decided to take a group of mice and consolidate their feeding to just the nocturnal period by only giving these mice access to high-fat food for an 8-hour window. It turns out that these mice consume the same calories as the mice who had free access to high-fat diet. However, unlike them the mice on the time-restricted diet did not become obese and were protected against type 2 diabetes, fatty liver disease, and cholesterol problems. These findings were reported on the front page of the Los Angeles Times, as well as the New York Times and multiple news outlets throughout the world. Over the last eight years since this discovery, new studies show that time-restricted feeding is not only protective against a number of other problems, but also protective in humans. This finding eventually changed American Heart Association and American Diabetes Association health recommendations where they changed their recommendations to include the importance of time of food intake on the health of those with cardiovascular disease and diabetes.

Since creating his lab, Dr. Zarrinpar has been worked on new ways to functionally manipulate what the gut microbiome does to study how it affects host physiological processes. They were able to accomplish this using engineered native bacteria, a novel approach to knocking in various functions in the gut microbiome. Using this method, Dr. Zarrinpar's lab showed that the microbiome can be used to affect insulin resistance, cholesterol, circadian rhythms, cognition, reproductive health, and even try to cure monogenetic metabolic disorders. In particular, the Zarrinpar lab has received NIH grants to use engineered native bacteria to reverse the effects of obstructive sleep apnea, insulin resistance, and even cognitive impairment. He also has received grants to improve health span in aged mice and reverse phenylketonuria, the most common monogenetic disorder.

Dr. Zarrinpar's translational research program is focused on making the gut microbiome a useful biomarker of disease. If the microbiome is rapidly fluctuating, how can it be useful for identifying disease? Dr. Zarrinpar's lab has been investigating whether cell-free DNA from translocated bacteria that may be floating in blood or in white blood cells, or selecting samples that are enriched for epithelial-adherent bacteria, are particularly diagnostic. He has received a Prevent Cancer Foundation grant to pursue this line of research.

Finally, Dr. Zarrinpar is actively working with colleagues in internal medicine, endocrinology, surgery, and cardiology to make a bariatric gastroenterology clinic at UCSD. The goal of this clinic is to introduce endoscopic procedures such as intragastric balloons, to improve specific medical conditions, such as obstructive sleep apnea or non-alcoholic steatohepatitis. In addition, these devices will be used to help patients become candidates for surgeries that their BMI puts them at high risk for, such as cardiac or renal transplant and orthopedic surgery. This clinic will be part of the Digestive Disease Center.

Gastroenterology Fellows

Meet our FY21 GI Fellows

Zachary Gitto
Mass General
CLINICAL

Jesus Dominguez
Johns Hopkins
CLINICAL

Donald Goens
Univ of Chicago
CLINICAL

Cynthia Hsu
UCSD
RESEARCH

Eric Low
UCSD
RESEARCH

2021 GI Fellows

Fellows Update

July 1, 2020, the program welcomed five new GI First Year Fellows who started their gastroenterology fellowship training.

On June 27, 2020, the program and faculty congratulated and gave their best wishes to our 2020 graduates.

The program also welcomed our 2020 Advanced Endoscopy Preceptor, Dr. M. Phillip Fejleh from UCLA. Phillip will spend 12-months under the mentorship of our Advanced Endoscopy Team of Drs. Abbas Fehmi, Thomas Savides, Mary Lee Krinsky, Wilson Kwong, Michael Chang and Gobind Anand.

Our 2020 Advanced IBD Preceptor is someone we all know, our 2020 GI Graduate, Drs. Ariela Holmer who will spend the next 12 months under the mentorship of Dr. William Sandborn, Dr. Sid Singh, Brigid Boland, and Parambir Dulai.

Congratulations to our 2020 Gastroenterology Fellowship Graduates!

Ali Akram, MD

Ali is joining the faculty of Kaiser Sacramento

Shravan Dave, MD

Shravan is staying at UC San Diego and joining the Hepatology faculty.

Ngozi Enwerem, MD

Ngozi is Joining the faculty of the University of Texas Southwestern, Dallas and the Dallas VAMC

Ariela Holmer, MD

Ariela is staying at UC San Diego as the 2020-2021 Advanced IBD Preceptor

Lien Le, MD

Lien is joining the faculty at UC Davis

We wish our graduating fellows the best of luck!

Fellow Publication Spotlight

Ali Akram, MD

- **Akram A**, Gupta S. Fecal immunochemical testing: A sensitive and sustainable approach for population colorectal cancer screening? Gastroenterology 2016; 151(3): 554-5.

Abbey Barnard, MD

- Dave S, Park S, Murad MH, **Barnard A**, Prokop L, Adams LA, Singh S, Loomba R. Comparative effectiveness of entecavir vs tenofovir for preventing hepatocellular carcinoma in patients with chronic hepatitis B: A systematic review and meta-analysis. Hepatology 2020; Apr 10. Doi: 10.1002/hep.31267.

Ngozi Enwerem, MD

- **Enwerem N**, Cho MY, Demb J, Earles A, Heskett KM, Liu L, Singh S, Gupta S. Systematic review of prevalence, risk factors, and risk for metachronous advanced neoplasia in patients with young-onset colorectal adenoma. Clin Gastroenterol Hepatol 2020; May 16; S1542-3565(20)30679-0.

Ariela Holmer, MD

- **Holmer A**, Singh S. Overall and comparative safety of biologic and immunosuppressive therapy in inflammatory bowel diseases. Expert Rev Clin Immunol 2019 15(9): 969-979.
- **Holmer AK,** Dulai PS. Using artificial intelligence to identify patients with ulcerative colitis in endoscopic and histologic remission. Gastroenterology 2020; 158(8): 2045-2047.
- Rozich JJ, **Holmer A**, Singh S. Effect of lifestyle factors on outcomes in patients with inflammatory bowel diseases. Am J Gastroenterol 2020; 115(6): 832-840.
- Battat R, Hemperly A, Truong S, Whitmire N, Boland BS, Dulai PS, **Holmer AK**, Nguyen NH, Singh S, Vande Casteele N, Sandborn WJ. Baseline clearance of infliximab is associated with requirement for colectomy in patients with acute severe ulcerative colitis. Clin Gastroenterol Hepatol 2020; Apr 26: S1542-3565(20)30530-9. Doi: 10.1016/j.cgh.2020.03.072.

Robert Klapheke, MD

- **Klapheke R**, Eskandari A, Chang MA. Creation of an esophageal jejunal anastomosis for a blind esophagus using a lumen-app0osing metal stent. VideoGIE. 2020 Mar 20; 5(6): 233-234. Doi: 10.1016/j.vgie.2020.02.008.

Joseph Meserve, MD

- **Meserve J**, Barsky M, Dulai PS. In the absence of head-to-head trials, what do real world studies tell us about the comparative effectiveness of biologics in Crohn's disease. Best Pract Res Clin Gastroenterol 2019; Feb-Apr ; 38-39: 101619. Doi: 10.1016/j.bpg.2019.05.006.
- Faleck DM, Winters A, Chablaney S, Shashi P, **Meserve J**, Weiss A, et al. Shorter disease duration is associated with higher rates of response to Vedolizumab in patients with Crohn's disease but not ulcerative colitis. Clin Gastroenterol Hepatol 2019; Nov; 17(12): 2497-2505.
- **Meserve J**, Aniwan S, Koliani-Pace JL, Shashi P, Weiss A, Faleck D, Winters A, Chablaney S, Kochhar G, Boland BS, Singh S, Hirten R, Shmidt E, et al. Retrospective analysis of safety of Vedolizumab in patients with inflammatory bowel diseases. Clin Gastroenterol Hepatol 2019; July; 17(8): 1533-1540.

Fellow Publication Spotlight Continued

Nghia Nguyen, MD

- Jain A, **Nguyen NH**, Proudfoot JA, Martin CF, Sandborn WJ, Kappelman MD, Long MD, Singh S. Impact of obesity on disease activity and patient reported outcomes measurement information system (PROMIS) in inflammatory bowel diseases. Conditional acceptance to Am J Gastroenterol 2019; 114(4): 630-639.
- **Nguyen NH**, Ohno-Machado L, Sandborn WJ, Singh S. Obesity is independently associated with higher annual burden and costs of hospitalization in patients with inflammatory bowel diseases. Clin Gastroenterol Hepatol 2019; Mar; 17(4): 709-718.
- **Nguyen NH**, Koola J, Dulai PS, Prokop LJ, Sandborn WJ, Singh S. Rate of risk factors and interventions to reduce readmission in patients with inflammatory bowel diseases. Clin Gastroenterol Hepatol 2019; Aug 27: S1542-3565(19)30917-6. Doi: 10.1016/j.cgh.2019.08.042.
- **Nguyen NH**, Kumool S, Dulai PS, Boland BS, Sandborn WJ, Singh S. Short disease duration is associated with increased risk of treatment failure in biologic-treated patients with ulcerative colitis. Inflamm Bowel Dis 2019; Nov 21: izz276. Doi: 10.1093/ibd/izz276.
- **Nguyen NH**, Singh S, Sandborn WJ. Positioning therapies in the management of moderate to severe inflammatory bowel diseases. Clin Gastroenterol Hepatol 2020; 18(6): 1268-1279.
- Dulai PS, Battat R, Barksy M, **Nguyen NH**, Ma C, Narula N, Mosil M, Vasteele NV, Boland BS, Prokop L, D'Haens G, Feagan BG, Sandborn WJ, Jairaith V, Singh S. Incorporating fecal calprotein I clinical practice for moderate to severely active ulcerative colitis patients treated with biologics or small molecule inhibitors. Am J Gastroenterol 2020; 115(6): 885-894.
- Battat R, Hemperly A, Truong S, Whitemire N, Boland BS, Dulai PS, Holmer AK, **Nguyen NH**, Singh S, Vande Casteele N, Sandborn WJ. Baseline clearance of infliximab is associated with requirement for colectomy in patients with acute severe ulcerative colitis. Clin Gastroenterol Hepatol 2020; Apr 26: S1542-3565(20)30530-9. Doi: 10.1016/j.cgh.2020.03.072.

Edward Yang, MD

- **Yang E**, Chang MA, Savides TJ. New techniques to control gastrointestinal bleeding. Gastroenterol Hepatol 2019; 15(9): 1-9.
- Gu P, **Yang E**, Chittajallu P, McNeill C, Kwon J, Ahmed T. Patient preception and clinical impact of direct to consumer advertising in inflammatory bowel disease. Dig Dis Sci 2020; doi: 10.1007/s10620-020-06180-y. Online ahead of print.
- **Yang E**, Panaccione N, Whitmire N, Dulai PS, Casteele NV, Singh S, Boland BS, Collins A, Sandborn WJ, Panaccione R, Battat R. Efficacy and Safety of Simultaneous Treatment with Two Biologic Medications in Refractory Crohn's Disease. Aliment Pharmacol Ther 2020; 51:1031-8.
- Yokoo T, Rich N, **Yang E**, Odewole M, Arroyo A, Carugati M, Olivares J, Parikh ND, Browning T, Fetzer D, Singal AG. Comparative accuracy of abbreviated MRI vs. ultrasound for detection of early-stage HCC in patients with cirrhosis. (*Abstract submitted to International Liver Cancer Association conference 9/2020*)

NAFLD RESEARCH CENTER UPDATES

NAFLD RESEARCH CENTER LAUNCHES A MULIT-CENTER CLINICAL TRIAL TO TEST EFFICACY OF RAMIPRIL, AN ACE INHIBITOR, AS A TREATMENT FOR COVID-19 PATIENTS.

In early March, just as state efforts to battle the COVID-19 pandemic were gearing up in California, Dr. Rohit Loomba entered a collaboration with Dr. Hongliang Li and his medical research team at Wuhan University in China to retrospectively study COVID-19 patients and their responses to 2 classes of hypertension medications--angiotensin converting enzyme (ACE) inhibitors and angiotensin receptor blockers (ARBs). The severe acute respiratory syndrome coronavirus 2 (SARS-CoV2) binds and enters human cells through a membrane-bound version of angiotensin converting enzyme 2 (ACE2). There was some concern at the time that use of hypertension medications might increase levels of ACE2, potentially enhancing viral infection and worsening outcomes for COVID-19 patients. However, Dr. Loomba's collaborative study with Wuhan University researchers revealed that use of ACEIs and ARBs may have a *protective* effect. In their study of 1128 patients with hypertension who were hospitalized with COVID-19, they observed that patients on ACEI/ARB treatment had a significantly lower risk of death compared to patients who weren't taking these medications (Zhang et al., 2020). For ACEI/ARB users, the 28-day all-cause mortality was 3.7% vs 9.8% for non-users.

How might hypertension drugs improve outcomes for COVID-19 patients? The SARS-CoV-2 target ACE2 is expressed in several major organs including the lungs, kidneys, heart, and gut. It opposes the functions of angiotensin II, a hormone that not only regulates blood pressure but also has vasoconstrictive, pro-inflammatory, and pro-oxidative effects. The current working hypothesis is that SARS-CoV-2 infection may lead to downregulation of ACE2 expression and subsequent activation of angiotensin II signaling. In turn, high angiotensin II levels may contribute to the severe levels of lung injury, respiratory failure, and other major organ damage widely observed in hospitalized COVID-19 patients. In support of this, a recent study from Shenzhen, China reported that serum angiotensin II levels were significantly elevated in COVID-19 patients with pneumonia and were linearly correlated with viral load and lung injury (Liu et al., 2020).

Based on these promising findings, in early May, the NAFLD Research Center team designed and launched the RAMIC Trial, a multi-site study, to formally test whether Ramipril, an ACE inhibitor and an already FDA-approved drug for treatment of hypertension, could help COVID-19 patients. With generous support and funding from Pfizer, the maker of Ramipril, and IND approval from the FDA, this randomized, double-blinded, placebo-controlled clinical trial will recruit and enroll 560 COVID-19 patients from hospitals around the country. COVID-19 patients who enter hospital emergency rooms will be assigned to either the Ramipril or placebo arm and observed for a month. The study will determine whether ACEi treatment in COVID-19 patients reduces risk of admission to intensive care, mechanical ventilator use, and /or death. The RAMIC trial will determine whether Ramipril, a widely available and relatively safe FDA-approved drug for hypertension, may be added to the growing arsenal of treatments for COVID-19 patients.

NAFLD RESEARCH CENTER UPDATES

NAFLD RESEARCH CENTER ASSUMES LEADERSHIP OF NASH CRN CLINICAL CENTER.

Nonalcoholic fatty liver disease (NAFLD) is the leading cause of chronic liver disease in the United States and affects nearly a third of the adult population. It encompasses both fatty liver and nonalcoholic steatohepatitis (NASH), the progressive form of the disease. Since its founding in 2002, the mission of the NASH Clinical Research Network (NASH-CRN) has been to investigate the clinical features, natural history, and treatment of NAFLD in children and adults. The NASH-CRN represents a cooperative network of eight clinical centers and one data coordinating center. This year, leadership of the NASH-CRN Clinical Center formerly at Columbia University, transferred to Dr. Rohit Loomba at UC San Diego's NAFLD Research Center. Sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) through a $5.7 million dollar grant, the UCSD Clinical Center will continue to develop and conduct clinical trials. It will also continue to identify and develop non-invasive liver imaging methods to assess patient responses to therapies and to screen for disease progression. The clinical center will also develop ancillary studies to better understand the roles of genetics, the gut microbiome, and environmental factors in modulating the course of NAFLD in both children and adults. Co-investigators in this study include Dr. Jeffrey Schwimmer in the Department of Pediatrics, who will continue to serve as director of the Pediatric Clinical Center at UCSD, as well as Drs. Claude Sirlin, Kathryn Fowler, and Michael Middleton in the Department of Radiology, who will continue to head the Radiology Reading Center.

NAFLD RESEARCH CENTER BEGINS MULTI-CENTER STUDIES OF HIV-ASSOCIATED NAFLD

Among HIV-infected adults, there is evidence that there is a high prevalence of fatty liver disease and a higher risk for advanced liver fibrosis than the general population. The NAFLD Research Center received an $8 million award from NIDDK to begin a multi-center study of fatty liver disease in HIV-infected individuals to address critical knowledge gaps in the field of NAFLD in HIV. In collaboration with Naga Chalasani at the Indiana School of Medici ne and Mark Sulkowski at Johns Hopkins University, Dr. Rohit Loomba and the NAFLD Research Center will embark upon a prospective observational study to better understand the prevalence of hepatic steatosis in HIV-infected individuals and underlying genetic factors that may lead to liver disease. The study will also characterize liver histology in HIV-infected individuals with NAFLD in order to determine that current liver biopsy scoring systems are applicable to this understudied population. The NAFLD Research Center will also embark upon a multicenter, randomized, double-blind, placebo-controlled, clinical trial to test the NASH treatment efficacy of saroglitazar, a novel PPARα/γ agonist, in 160 HIV-infected individuals with biopsy-proven NASH.

NAFLD RESEARCH CENTER BEGINS STUDIES OF SHARED PATHOGENIC MECHANISMS UNDERLYING CVD AND NASH

Cardiovascular disease (CVD) is the leading cause of mortality among individuals with non-alcoholic fatty liver (NAFLD). Afflicting approximately a third of the U.S. adult population, NAFLD, especially its progressive form non-alcoholic steatohepatitis (NASH), is associated with an increased CVD risk, independent of common CVD risk factors. However, the pathophysiological mechanisms that contribute to the clinical association between NAFLD and CVD are not well-defined. To study the intersection of the diseases, NHLBI has awarded a $7.5 million dollar grant to the NAFLD Research Center and its collaborators Christopher Glass and Joseph Witztum at UCSD and Ronald Evans at the Salk Institute. This team of investigators will study common mechanisms that potentially underlie the clinical association between NASH and CVD including Liver X receptors (LXRs) in macrophages, the farnesyl X receptor (FXR) in the gut, and oxidation specific epitopes (OSEs) in the liver and artery wall. The NAFLD Research Center will also test imaging and circulating biomarkers that may help stratify NAFLD patients according to their CVD risk. By identifying and targeting common mechanisms underlying CVD and NASH, this research could lead to breakthrough treatment interventions for both NAFLD and atherosclerosis.

Dr. Kim Barrett: Washington Sojourn

About six months ago I embarked on what I expected to be a straightforward experience of a rotating Division Director appointment at the National Science Foundation in Washington DC. With support from the GI Division and the Department of Medicine, I signed on for a year to oversee the programs of the Division of Graduate Education in the Education and Human Resources Directorate. Unknown to most colleagues in medical schools like ours, the NSF uses large numbers of "rotators" to administer its programs, even in high-level management positions. The idea is that we bring a closer appreciation of the situation pertaining on university campuses and fresh ideas to strengthen grant programs. And while some scientific colleagues have erroneously assumed I am on sabbatical, my days are far from leisurely. The NSF provides a grant to UCSD that covers the vast majority of my salary and benefits and also supports my travel back to UCSD to check on research and participation relevant scientific meetings.

In January, my preoccupations included moving into an Alexandria apartment sight unseen, and adjusting both to the then-freezing weather and to life without either my husband close by or my car. Little did I realize that my adventure would soon become something other than what I signed up for, as due to the Covid-19 pandemic NSF (like most of the federal government) moved to 100% telework and scientific travel became a thing of the past. Rather than meeting up with DC friends and entertaining visitors in town for business, I was suddenly alone in my apartment 24/7 and trying to interact productively with colleagues I have yet to meet in person.

Nevertheless, I'm still glad I embarked on this. Zoom has kept me in touch (sometimes too in touch) with not only NSF colleagues, but also my lab and friends and family worldwide. I've been incredibly impressed by the energy and intellect of my federal and rotator colleagues, and their dedication to the mission. I've had the opportunity to speak at (virtual) meetings, entertain (virtually) visiting students, interact with colleagues at other agencies, like Kay Lund at the NIH, provide input to proposed legislation, and sign off already on more than $100M in funding for graduate students and to support innovations in graduate education. And perhaps most importantly, the experience is giving me faith in the integrity of the merit review process and in the key role that program officers play in both advising prospective PI's, and ensuring that the work we support is diverse and meaningful. I heartily recommend this as an opportunity for anyone who wants to understand how funding agencies actually function. I'll be in a much stronger position to advise junior colleagues seeking funding when I return.

UC San Diego School of Medicine

Established in 1968, University of California San Diego School of Medicine is consistently ranked among the top medical school programs in the country for primary care and research by *U.S. News & World Report* and among the top 10 medical schools for National Institutes of Health total funding. The school is internationally recognized as a place where discoveries are delivered — bringing breakthroughs from the research lab to patients' bedsides. Faculty members care for patients at UC San Diego Health, where primary care is available at several convenient locations throughout San Diego County and our advanced specialty care consistently ranks among the nation's best. For more information, visit medschool.ucsd.edu.

Our Mission

The UC San Diego Gastroenterology & Hepatology Division will provide the best clinical care to those afflicted with gastrointestinal and liver diseases, investigate at the clinical and basic levels the best way to improve those diseases, and educate trainees on how to best approach the care of patients with those diseases. The UC San Diego GI Division will strive to be nationally recognized through its faculty as well as innovations that will improve the care of patients with gastrointestinal and liver diseases nationwide. The UC San Diego GI Division was founded in 1970 by Henry Wheeler, MD, who served as its first division chief. Later, Jon I. Isenberg, MD, led the division from 1979 to 1993, followed by C. Richard Boland, MD, from 1995 to 2003, John M. Carethers, MD, from 2004 - 2009 and William J. Sandborn from 2011-present. The GI Fellowship Training Program commenced in 1974 and the NIH Training Grant was initially funded in 1976. The division has trained several local gastroenterologists in San Diego, as well as developed several academicians at University based medical schools, including some with leadership and administrative positions.

Charitable Donations

You may contribute directly to UC San Diego GI by visiting our website at https://giveto.ucsd.edu and clicking on the **GIVE** tab on the right-hand side. Remember: if you itemize, you may be able to receive a charitable deduction for 2020 for your gifts received on or before December 31.