UCSD



Division of Gastroenterology Newsletter



Fall 2008 Volume 4, Issue 1

Letter from the Chief



As most of you return from enjoyable summer vacations, I want to spotlight a few snapshots of the GI Division over the past year. For 2008-2009, we welcome five newly recruited faculty members (Drs. Denise Kalmaz, Bernd Schnabl, Pradipta Ghosh, Nedret Copur, and



David Owens) who will enhance our clinical, research, and teaching missions. With these recruitments, the Division now has 40 clinical and research faculty. Clinically, the Division has nearly doubled its productivity over the past 5 years, and combining our clinical sites now does over 12,000 procedures annually. For the upcoming year, we anticipate faculty growth in the areas of advanced procedures, hepatology, the VA, and research. Our research mission continues to grow, and a multitude of research publications are listed in this issue from members of the Division. Competing for federal and private sources for grant support has been fruitful for Divisional members, and recent awardees include Drs. Martina Buck, Mario Chojkier, Pradipta Ghosh, Barbara Jung, Sam Ho, John Carethers and Lars Eckmann. The Division obtained its first ever Digestive Disease Center grant. Educationally, the Division welcomes five new GI fellows, who are briefly highlighted in this publication, and who replace 5 recently graduated fellows, also highlighted in this publication. We eagerly await the results of our recent Residency Review Committee visit for the continued accreditation of our excellent training program. Dr. Tom Savides was awarded this year's annual Teaching Excellence Award from the GI fellows, and also named the 2008 UCSD Physician of the Year. Dr. Kim Barrett was named an "Outstanding Women in Science" by the AGA, and Dr. John Carethers was elected to the American Society for Clinical Investigation. The Division coordinated a very successful All-University of California DDW Reception, and photos from that event are shown in this publication. What a year it has been!

I anticipate this current year to be as fruitful with the Division implementing a number of changes to continually improve our clinical delivery system, our research growth, and our education mission. Please have a look at our newly updated web site at gastro.ucsd.edu.

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Division of Gastroenterology Program Highlights.....Gastrointestinal Function Laboratory

The Gastrointestinal Function Laboratory at UCSD uses state-of-the art equipment to diagnose simple to complex disorders of GI motility and physiology. The laboratory has a rich history with patient care as well as an association with current and past researchers in GI Physiology at UCSD, including Joseph Rinaldo, Joseph Steinbach, Charles Code, and Jon Isenberg. The following are some of the testing offered at the UCSD GI Function Laboratory:

High-resolution esophageal manometry is an extremely patient friendly technique to study esophageal motor function and dysfunction. This state of the art methodology utilizes 36 pressure transducers to map the entire esophagus in colorful plots that is highly sensitive in detecting motor function and dysfunction.

High Frequency Catheter Based Ultrasound Imaging of the Esophagus: Several studies show that primary motor disorders of the esophagus are all associated with hypertrophy of the esophageal muscles and ultrasound imaging allows for early detection of muscle hypertrophy. Ultrasound imaging is probably the most sensitive technique for detecting esophageal motor dysfunction, and can be extremely useful where routine testing does not provide a clear diagnosis. The ultrasound catheter is 1mm in diameter and is extremely patient friendly and tolerable when placed in the esophagus.

Bravo pH recording of the esophagus - this is a wireless pH monitoring system of the esophagus and captures esophageal for 48 hours in patient's own home environment without patient having to wear a nasal catheter.

Smart Pill - UCSD will acquire this unique system that measures gastric emptying, small bowel transit and colonic transit in a most patient friendly manner. The patient swallows a capsule that records and sends pressure, pH and temperature signal telemetrically to a recorder device worn by the patient.

<u>Breath-testing</u> for H. Pylori, lactose intolerance and bacterial overgrowth are available.

Anorectal manometry to study the sensory and motor functions of the anal canal and rectum, using state-of-the-art recording systems, is available.

Anorectal 3D-US imaging: using a transducer placed on the perineum is available. This technique allows visualization of the anal-sphincter complex in 3 dimensions. Unlike endoanal ultrasound, there is no need for the US transducer to be inserted into the anal canal and therefore is an extremely patient friendly test.

Biofeedback therapy for the treatment of fecal incontinence and constipation is available.

Muscle Hypertrophy in Esophageal Motor Disorders

Normal

Diffuse Esophageal Spasm

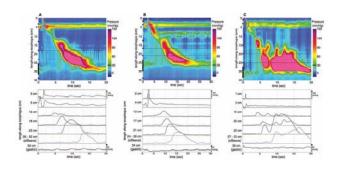


Nutcracker Esophagus



Achalasia

Nutcracker Esophagus



Division of Gastroenterology Program Highlights.....Gastrointestinal Function Laboratory Cont'd



Ravinder Mittal, M.D. is Professor of Medicine and Director of the Gastrointestinal Function Laboratory at UCSD. For a quarter of century his research has focused on the motility of the gastrointestinal tract, specifically with regards to sensory and motor function of the esophagus. Dr. Mittal has pioneered the study of esophageal motility using ultrasound imaging, which has revealed novel physiology on the longitudinal muscles of the esophagus. Some recent publications highlight the translational nature and clinical relevance of his work:

Korsapati H, Babei A, Bhargava V, Mittal RK. Cholinergic stimulation induces asynchrony between circular and longitudinal muscle contraction during peristalsis. *American J. Physiology* 2008; 294:G694-8

Babei A, Korsapati H, Bhargava V, Zheng W, Mittal RK. A Unique Pattern of Longitudinal Muscle Contraction during Transient Lower Esophageal Sphincter Relaxation *Gastroenterology 2*008; 134 (5):1322-31

For the last 7 years, he has expanded his research interest to the physiology of pelvic floor muscle. A multidisciplinary team that includes urogynecology, radiology and neurology are making important new advances in the field by using novel techniques, such as three dimensional ultrasound imaging, Magnetic resonance imaging and high definition anal manometery.

Jung S, Pretorius D, Weinstein M, Nager C, Den Boer D, Mittal RK. Vaginal High Pressure Zone Assessed by the Dynamic 3-Dimensional Ultrasound Images of the Pelvic Floor. *Am Journal of Obstetrics and Gynecology* 2007;197:52e1-7

Jung S, Pretorius D, Weinstein M, Nager C, Den Boer D, Mittal RK. Anal canal closure mechanism in women: assessed by the 3D ultrasound imaging. *Diseases of Colon and Rectum*, April 2008 June;51:932-9

Director: Ravinder K. Mittal, M.D.

Lab Nurses: Debbie Den Boer, RN

Debbie Orban, RN

Staff Scheduler: April Flores

For Clinical Consulting Dr. Mittal, Contact Margery Lewis at (858) 657-7265

For GI Function Testing Appointments, Contact April Flores at (619) 543-6834

Division Highlights....

The Pre-DDW Symposium: Advances in Esophageal Pain coordinated by Ravinder Mittal, MD, Professor of Medicine, was held on May 16, 2008 at the Moores Cancer Center. Many of the world's experts on Esophageal Pain spoke at the Symposium and provided current research and treatment methods.

The UCSD GI Division, along with the GI Divisions at UCLA, UCSF, UC Davis and UC Irvine held a AII-UC Reception during DDW on the USS Berkeley, part of the San Diego Maritime Museum. More than 500 attendees were present at the May 18, 2008 reception.

For 2008, The GI Division Graduated 5 Fellows who were honored at the annual Graduation Ceremony. The latest Graduates are; Pradipta Ghosh, M.D., Denise Kalmaz, M.D., David Owens, M.D., Erik Van Kleek, M.D., and Laura Yun, M.D. Drs. Ghosh, Kalmaz, and Owens have joined UCSD as faculty, Dr. Van Kleek joined a GI practice in Portland, OR, and Dr. Yun doing a 4th year focused on IBD at the University of Chicago.

The GI Division welcomes the following new fellows for 2008—2011: Ingrid Gonzalez, M.D. (Mass General), Ben Cohen, M.D. (Mt. Sinai), James Lin, M.D. (University of Michigan), Mamie Dong, M.D. (UCLA), and Marianne Fahmy, M.D. (UCSD).

The GI Division welcomes the following new faculty for 2008: Denise Kalmaz, M.D., Pradipta Ghosh, M.D., David Owens, M.D., Nedret Copur, M.D., and Bernd Schnabl, M.D. Dr. Copur joins UCSD from Tulane, and Dr. Schnabl joins UCSD from Columbia University, and Drs. Kalmaz, Ghosh and Owens came form UCSD.

Barbara Jung, M.D., Assistant Professor of Medicine, will serve as the Assistant Director for Career Development for the Physician Scientist Training Pathway.

Awards & Honors....

Thomas Savides, M.D., Professor of Clinical Medicine, was named by UC San Diego Medical Center the 2008 Physician of the Year for his commitment to healthcare, both in the hospital setting and throughout the community.

Barbara Jung, M.D., Assistant Professor of Medicine, was awarded a Clinical And Translational Science Award (CTSA) for her research entitled "Bard1 Splice Variants and Colon Cancer Metastasis," for 2008-2010.

Michael Scharl, M.D., Visiting Post-Doc in Kim Barrett's, Ph.D., Lab, was awarded an GRG/AGA Fellow Travel Award that was presented to him at the May 2008 DDW in San Diego.

Denise Kalmaz, M.D., Clinical Instructor, was awarded the inaugural Fellowship Program Director's Award at the 2008 Fellows Graduation, in recognition of her outstanding commitment to the Fellowship Program.

Andrew Bain, M.D. GI Fellow, was accepted to the Crohn's & Colitis Foundation of America Visiting Fellow Program. The Visiting IBD Fellow program accepts qualified gastroenterology fellows for a one-month rotation at a leading IBD center.

Horacio Jinich, M.D., Clinical Professor of Medicine, has recently become a Fellow of the American Gastroenterological Association.

Samuel Ho, M.D., Professor in Residence, was named a Fellow of the American College of Physicians.

Martina Buck, M.D., Assistant Adjunct Professor of Medicine, Received a K22 NIH Award entitled "Heptocellular Carcinoma and Hepatitis C: E2 Molecular Mechanisms," for 2008-2011. Derek Patel, M.D., Assistant Clinical Professor of Medicine, received an Academy of Clinical Scholars Grant Award. The Grant provides funds to enhance clinical projects. Dr. Patel's will focus on IBD at UCSD.

Thomas Savides, M.D. Professor of Clinical Medicine, received the 2007—2008 Teaching Excellence Award from the GI Fellows.

Mario Chojkier, M.D., Professor of Medicine in Residence, received a renewal to 2013 on his NIH R37 grant entitled "C/EBP beta Signals Hepatocyte Proliferation and Survival."

John Carethers, M.D., Professor of Medicine and Chief of the GI Division gave the GI Leonidas H. Berry Memorial Lecture at the National Medical Association annual meeting July 29, 2008 in Atlanta, GA.

Recent Division Publications....

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Sellers ZM, Mann E, Smith A, Ko KH, Giannella R, Cohen M.B., Barrett KE, Dong H. Heat-stable enterotoxin of *Escherichia coli* (STa) can stimulate duodenal HCO₃⁻ secretion via a novel GC-C- and CFTR-independent pathway. *FASEB J.* 22: 1306-1316, 2008.

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Recent Division Publications....Cont'd

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Recent Division Publications....Cont'd

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Chow JYC, Cabral JA, Chang J, Carethers JM. TGF-beta modulates *PTEN* expression independently of SMAD signaling for growth proliferation in colon cancer cells. *Cancer Biol & Ther 7:*, 2008. (*in press*)

Rajasekaran MR, Jiang Y, Bhargava V, Littlefield R, Lee A, Lieber RL, Mittal RK. Length-tension relationship of the external anal sphincter muscle: implications for the anal canal function. *Am J Physiol Gastrointest Liver Physiol*. 2008 Aug;295(2):G367-73.

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Buck M. Direct infection and replication of naturally occurring hepatitis C virus genotypes 1, 2, 3 and 4 in normal human hepatocyte cultures. *PLoS ONE*. 2008 Jul 16;3(7):e2660.

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DDW 2008

2008 Digestive Diseases Week All UC Alumni Reception

May 18, 2008 USS Berkeley San Diego Maritime Museum







With the attendance of over 500 Faculty, Fellows and Guests from UC San Diego, Los Angeles, Irvine, San Francisco, Davis, and Scripps Green Hospital, the 2008 All UC DDW Reception was a great success.

Division of Gastroenterology Fellows Graduation June 14, 2008



Back Row: Winston Dunn, Christina Wiese, Raymond Tang, Tom Savides, John Carethers, Roslyn Lara, Sameer Mazhar, Lance Stein

Front Row: Pradipta Ghosh, Laura Yun, David Owens, Erik Van Kleek, Denise Kalmaz



Graduating Fellow, Denise Kalmaz, M.D., accepting her certificate and gifts from Tom Savides, M.D. Denise was also awarded the Fellowship Program Director's Award.

Graduating Fellow, Erik Van Kleek, M.D., accepting his certificate and gifts from Tom Savides, M.D.

Graduating Fellow, Pradipta Ghosh, M.D., accepting her certificate and gifts from Division Chief, John Carethers, M.D.



Graduating Fellow, Laura Yun, M.D., accepting her certificate and gifts from Division Chief, John Carethers, M.D.



Graduating Fellow, David Owens, M.D., accepting his certificate and gifts from Division Chief, John Carethers, M.D.



The Division of Gastroenterology's new and improved Division website is now live and on the internet. Please go to: gastro.ucsd.edu to learn more about the Division. In the future, October '08, there will also be a "Donation Button" so that Donations can be made online via the website.

Some other features of the GI Division website include for Academic Faculty a summary of their research interests, and a link to publications; for Clinical Faculty each faculty member's page will link to their Medical Center information and how to make an appointment. Be sure to take a look at the calendar for Upcoming Division Seminars and Conferences on the Main Page. There are many areas of the new site to see, including a updated fellowship area that will give prospective Fellows information about our program. The Division thanks Roslyn Lara for coordinating the update.

Organization Statement

The UCSD GI 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 UCSD 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 UCSD GI Division was founded in 1970 by Henry Wheeler, M.D. who served as its first Division Chief. Later, Jon I. Isenberg, M.D. led the Division from 1979 to 1993, followed by C. Richard Boland, M.D. from 1995 to 2003, and currently by John M. Carethers, M.D., since 2004. 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.

Main Campus - GI Academic Offices

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