

# Gastroenterology

www.gastrojournal.org

Vol. 148, No. 7

June 2015

TABLE OF CONTENTS

## Contents

### ON THE COVER

#### Gastroenterology



*Helicobacter pylori* activates and expands Lgr5D<sup>+</sup> stem cells through direct colonization of the gastric glands. See Sigal et al on page 1392.

### COVERING THE COVER

1261 A. W. Lowe and R. H. Moseley

### PRESS HIGHLIGHTS

G. L. Su and K. Novak

**Antiviral Agents Show Safety and Efficacy in Hard to Treat Patients With HCV Infection**

**Genetic Analysis of Tumors Could Improve With Proper Controls**

**Cheap Allergy Drug Prevents HCV Infection of Hepatocytes**



To read these and other Press Highlights scan the QR code to the left or visit <http://bit.ly/1r8sjfO>.

### MENTORING, EDUCATION, AND TRAINING CORNER

1265 **How to Position for the Gastroenterology Fellowship of Your Choice: The Program Director Perspective**  
A. T. Chan and K. Peterson

### EDITORIALS

1268 **Drug Level-based Anti-Tumor Necrosis Factor Therapy: Ready for Prime Time?**  
S. Ben-Horin  
See Vande Casteele N et al on page 1320.

1271 **Drug-Induced Liver Injury: Expanding Our Knowledge by Enlarging Population Analysis With Prospective and Scoring Causality Assessment**  
R. Teschke and R. J. Andrade  
See Chalasani N et al on page 1340; and Goldberg DS et al on page 1353.

1274 **Hepatocellular Carcinoma: Optimal Staging Impacts Survival**  
H. L. Reeves and A. M. Aisen  
See Kim H-D et al on page 1371.

1276 **Polymerase Slippage Restoration of Frameshifted *TGFBR2* in Colorectal Cancer: A Novel Paradigm**  
W. M. Grady  
See de Miranda NFCC et al on page 1427.

1279 **Somatostatin Receptor Subtype 2 as Pancreatic Tumorigenesis Suppressor: Identification of a New Targetable Signaling Node**  
H. C. Crawford  
See Chalabi-Dchar M et al on page 1452.

### GASTROENTEROLOGY IN MOTION

1282 **Endoscopic Ultrasonography-Guided Fine Needle Aspiration of Kidney Masses**  
R. Law, S. Wobker, I. S. Grimm, and T. H. Baron

Podcast Video Related article in CGH

CME quiz Editorial accompanies this article Additional online content available Cover

Publisher: *Gastroenterology* (ISSN 0016-5085) is published monthly (semi monthly in May and October) in two indexed volumes by Elsevier Inc, 360 Park Avenue South, New York, NY 10010-1710. Periodicals postage paid at New York, NY and additional mailing offices. POSTMASTER: Send address changes to GASTROENTEROLOGY, Elsevier Health Sciences Division, Subscription Customer Service, 3251 Riverport Lane, Maryland Heights, MO 63043. 2015 US subscription rates: individual, \$639.00; student and resident, \$244.00. Outside of the U.S. and possessions: individual, \$968.00; student and resident, \$562.00; surface delivery, no additional charge; air mail delivery, add \$78.00. Prices subject to change without notice.

**CLINICAL CHALLENGES AND IMAGES IN GI**

- 1284 Not a Usual Flare up of Ulcerative Colitis**  
*N. Raul, F. Liesbeth, and H. Pieter*
- 1288 A Rare Cause of Diarrhea and Weight Loss**  
*Y. Tomizawa, C. Van Slambrouck, and R. T. Kavitt*
- 1290 An Increasingly Uncommon Presentation of a Common Disease**  
*J. Noroozian, J. Welch, and S. Larson*
- 1292 An Unusual Ileocecal Valve Mass**  
*A. M. Dickstein, S. Shinagare, and M. Guelrud*

**ELECTRONIC CLINICAL CHALLENGES AND IMAGES IN GI**

For a full list, please see the table of contents online at [www.gastrojournal.org](http://www.gastrojournal.org).

**REVIEWS AND PERSPECTIVES**

**Reviews in Basic and Clinical Gastroenterology and Hepatology**

- 1294  $\beta$ -Catenin Signaling and Roles in Liver Homeostasis, Injury, and Tumorigenesis**  
*S. P. Monga*

**ORIGINAL RESEARCH**

**Full Reports**

**Clinical—Alimentary Tract**

- 1311 Larazotide Acetate for Persistent Symptoms of Celiac Disease Despite a Gluten-Free Diet: A Randomized Controlled Trial**  
*D. A. Leffler, C. P. Kelly, P. H. R. Green, R. N. Fedorak, A. DiMarino, W. Perrow, H. Rasmussen, C. Wang, P. Bercik, N. M. Bachir, and J. A. Murray*
- 1320 Trough Concentrations of Infliximab Guide Dosing for Patients With Inflammatory Bowel Disease**  
*N. Vande Casteele, M. Ferrante, G. Van Assche, V. Ballet, G. Compernelle, K. Van Steen, S. Simoens, P. Rutgeerts, A. Gils, and S. Vermeire*  
*See editorial on page 1268.*
- 1330 A Model to Determine Colorectal Cancer Risk Using Common Genetic Susceptibility Loci**  
*L. Hsu, J. Jeon, H. Brenner, S. B. Gruber, R. E. Schoen, S. I. Berndt, A. T. Chan,*

*J. Chang-Claude, M. Du, J. Gong, T. A. Harrison, R. B. Hayes, M. Hoffmeister, C. M. Hutter, Y. Lin, R. Nishihara, S. Ogino, R. L. Prentice, F. R. Schumacher, D. Seminara, M. L. Slattery, D. C. Thomas, M. Thornquist, P. A. Newcomb, J. D. Potter, Y. Zheng, E. White, and U. Peters, on behalf of the Colorectal Transdisciplinary (CORECT) Study and Genetics and Epidemiology of Colorectal Cancer Consortium (GECCO)*

**Clinical—Liver**

- 1340 Features and Outcomes of 899 Patients With Drug-Induced Liver Injury: The DILIN Prospective Study**  
*N. Chalasani, H. L. Bonkovsky, R. Fontana, W. Lee, A. Stolz, J. Talwalkar, K. R. Reddy, P. B. Watkins, V. Navarro, H. Barnhart, J. Gu, and J. Serrano, for the United States Drug Induced Liver Injury Network*  
*See editorial on page 1271.*
- 1353 Population-Representative Incidence of Drug-Induced Acute Liver Failure Based on an Analysis of an Integrated Health Care System**  
*D. S. Goldberg, K. A. Forde, D. M. Carbonari, J. D. Lewis, K. B. F. Leidl, K. R. Reddy, K. Haynes, J. Roy, D. Sha, A. R. Marks, J. L. Schneider, B. L. Strom, D. A. Corley, and V. Lo Re III*  
*See editorial on page 1271.*
- 1362 Combination of Granulocyte Colony-Stimulating Factor and Erythropoietin Improves Outcomes of Patients With Decompensated Cirrhosis**  
*C. K. Kedarisetty, L. Anand, A. Bhardwaj, A. S. Bhadoria, G. Kumar, A. K. Vyas, P. David, N. Trehanpati, A. Rastogi, C. Bihari, R. Maiwall, H. K. Garg, C. Vashishtha, M. Kumar, V. Bhatia, and S. K. Sarin*
- 1371 Evaluation of Early-Stage Hepatocellular Carcinoma by Magnetic Resonance Imaging With Gadoteric Acid Detects Additional Lesions and Increases Overall Survival**  
*H.-D. Kim, Y.-S. Lim, S. Han, J. An, G.-A. Kim, S. Y. Kim, S. J. Lee, H. J. Won, and J. H. Byun*  
*See editorial on page 1274.*
- 1383 Adjuvant Immunotherapy With Autologous Cytokine-Induced Killer Cells for Hepatocellular Carcinoma**  
*J. H. Lee, J.-H. Lee, Y.-S. Lim, J. E. Yeon, T.-J. Song, S. J. Yu, G.-Y. Gwak, K. M. Kim, Y. J. Kim, J. W. Lee, and J.-H. Yoon*

www

v

CME

E

www

E

www

CME

E

www

www

V

E

www

www

**Basic and Translational—Alimentary Tract**

**1392** *Helicobacter pylori* Activates and Expands Lgr5D<sup>+</sup> Stem Cells Through Direct Colonization of the Gastric Glands  
*M. Sigal, M. E. Rothenberg, C. Y. Logan, J. Y. Lee, R. W. Honaker, R. L. Cooper, B. Passarelli, M. Camorlinga, D. M. Bouley, G. Alvarez, R. Nusse, J. Torres, and M. R. Amieva*

**1405** Chromosome-Associated Protein D3 Promotes Bacterial Clearance in Human Intestinal Epithelial Cells by Repressing Expression of Amino Acid Transporters

*A. T. Schuster, C. R. Homer, J. R. Kemp, K. P. Nickerson, E. Deutschman, Y. Kim, G. West, T. Sadler, E. Stylianou, D. Krokowski, M. Hatzoglou, C. de la Motte, B. P. Rubin, C. Flocchi, C. McDonald, and M. S. Longworth*

**1417**  $\gamma\delta$  Intraepithelial Lymphocyte Migration Limits Transepithelial Pathogen Invasion and Systemic Disease in Mice

*K. L. Edelblum, G. Singh, M. A. Odenwald, A. Lingaraju, K. El Bissati, R. McLeod, A. I. Sperling, and J. R. Turner*

**1427** Transforming Growth Factor  $\beta$  Signaling in Colorectal Cancer Cells With Microsatellite Instability Despite Biallelic Mutations in *TGFBR2*

*N. F. C. C. de Miranda, M. van Dinther, B. E. W. M. van den Akker, T. van Wezel, P. ten Dijke, and H. Morreau*

See editorial on page 1276.

**1438** Vascular Endothelial Growth Factor C Disrupts the Endothelial Lymphatic Barrier to Promote Colorectal Cancer Invasion

*C. Tacconi, C. Correale, A. Gandelli, A. Spinelli, E. Dejana, S. D'Alessio, and S. Danese*

**Basic and Translational—Pancreas**

**1452** Loss of Somatostatin Receptor Subtype 2 Promotes Growth of KRAS-Induced Pancreatic Tumors in Mice by Activating PI3K Signaling and Overexpression of CXCL16

*M. Chalabi-Dchar, S. Cassant-Sourdy, C. Duluc, M. Fanjul, H. Lulka, R. Samain, C. Roche, F. Breibach, M.-B. Delisle, M. Poupot, M. Dufresne, T. Shimaoka, S. Yonehara, M. Mathonnet, S. Pyronnet, and C. Bousquet*

See editorial on page 1279.

**CONTINUING MEDICAL EDUCATION (CME) ACTIVITIES**

**e13** Exam 1: Trough Concentrations of Infliximab Guide Dosing for Patients With Inflammatory Bowel Disease

**e14** Exam 2: Population-Representative Incidence of Drug-Induced Acute Liver Failure Based on an Analysis of an Integrated Health Care System

**AGA SECTION**

**1466** Presentation of the Julius M. Friedenwald Medal to Robert S. Sandler, MD, MPH  
*N. J. Shaheen*

**SELECTED SUMMARIES**

**1470** HCV/HIV Coinfection: A New Treatment Paradigm  
*P. Y. Kwo and S. Agrawal*

**1471** Combining Biomarkers in Irritable Bowel Syndrome: A Forward Step Toward Making a Positive Diagnosis and Directing Therapy?  
*R. Sood and A. C. Ford*

**1473** Reply  
*M. Camilleri*

**1474** The POCER Trial: Bet on Active Care  
*L. Vuitton and L. Peyrin-Biroulet*

**1475** Reply  
*P. De Cruz and M. A. Kamm*

**1476** Early Enteral Feeding Does Not Improve Outcomes in Patients With Predicted Severe Acute Pancreatitis  
*G. A. Coté*

**1478** Reply  
*O. J. Bakker and H. C. van Santvoort, On behalf of The Dutch Pancreatitis Study Group*

**PRINT AND DIGITAL MEDIA REVIEWS**

**1479** The Great Ulcer War: How It All Happened  
*S. F. Moss*





**1480 Website Review: Review of Patient-Oriented Websites on Hemorrhoids**  
*G. Mansouraty and Z. F. Gellad*

**1481 Gastrointestinal Anatomy and Physiology: The Essentials**  
*J. C. Reynolds*

**1482 Correction**

**CORRESPONDENCE**

**1483 In the Presence of Conceptual Heterogeneity, Results of Network Meta-analysis Comparing Therapies in Crohn's Disease Need to Be Interpreted With Caution**  
*S. Bonovas, L. Moja, and S. Danese*

**1484 Reply**  
*G. S. Hazlewood, A. Rezaie, and G. G. Kaplan*

**Access to the full content of Gastroenterology Online is available to all subscribers!**

**AGA members** have seamless access to full *Gastroenterology* content from the AGA Web site. Simply sign in to <http://www.gastro.org>, visit the Publications section of the Web site, and click on *Gastroenterology*. You will be directed to the Journal Web site and will have full access to all content without having to supply a different username and password. Members can also visit <http://www.gastrojournal.org> directly and click on "Activate Online Access." Nonmember subscribers must create an online user account and activate their subscription to access the full text of articles on *Gastroenterology* Online. To activate your individual online subscription, please visit <http://www.gastrojournal.org> and click on "Activate Online Access." To activate your account, you

will need your subscriber account or member number, which you can find on your mailing label. (AGA members must use their 10-digit member number, including leading zeros). If you have any questions regarding your online subscription please call Elsevier Customer Service at (800) 654-2452.

Institutional access to *Gastroenterology* Online will be allowed only by limited site licensing. Further instructions will be available online. Personal subscriptions to *Gastroenterology* Online are for individual use only and may not be transferred. Use of *Gastroenterology* Online is subject to agreement to the terms and conditions of use as indicated online.

**AGA Member Number**

**Your Account Number**

**Sample mailing label**

GAST0000101864  
JANE DOE  
531 MAIN ST  
CENTER CITY, NY 10001-001

1GAST V91-4 1234567-8  
JANE DOE  
531 MAIN ST  
CENTER CITY, NY 10001-001