



Magnificent night view of the charming city of Groningen, The Netherlands. Read in this issue the outstanding study by Bolte *et al* looking at long-term dietary patterns and their association with pro- and anti-inflammatory features of the gut microbiome.

An international journal of gastroenterology and hepatology  
**Impact Factor: 19.819**

**Editor**

Emad El-Omar (Australia)

**Deputy Editor (Hepatology)**

Alexander Gerbes (Germany)

**Deputy Editor (Luminal Gastroenterology)**

William Grady (USA)

**Deputy Editor (Endoscopy)**

Thomas Rosch (Germany)

**Associate Editors**

Guy Boeckstaens (Belgium)

Patrice Cani (Belgium)

Jean-Francois Dufour (Switzerland)

Thomas Gress (Germany)

Christian Jobin (USA)

Ernst Kuipers (The Netherlands)

Markus Neurath (Germany)

Siew C Ng (Hong Kong)

Francisco Real (Spain)

Robert Thimme (Germany)

Herbert Tilg (Austria)

Fabien Zoulim (France)

**Artificial Intelligence/  
Machine Learning Editor**

Akbar Waljee (USA)

**Statistics Editors**

Ruben Hernaez (USA)

Susan Hutfless (USA)

**Education and Digital Media Editor**

Phillip Smith (UK)

**Editorial Office**

*Gut*

BMJ Journals

BMA House, Tavistock Square

London, WC1H 9JR, UK

E: [info.gut@bmj.com](mailto:info.gut@bmj.com)

ISSN: 0017-5749 (print)

ISSN: 1468-3288 (online)

**Disclaimer:** The Editor of *Gut* has been granted editorial freedom and *Gut* is published in accordance with editorial guidelines issued by the World Association of Medical Editors and the Committee on Publication Ethics. *Gut* is primarily intended for healthcare professionals and its content is for information only. The Journal is published without any guarantee as to its accuracy or completeness and any representations or warranties are expressly excluded to the fullest extent permitted by law. Readers are advised to independently verify any information on which they choose to rely. Acceptance of advertising by *Gut* does not imply endorsement. Neither BSG nor BMJ Publishing Group Limited shall have any liability for any loss, injury or damage howsoever arising from *Gut* (except for liability which cannot be legally excluded).

**Copyright** © 2021 BMJ Publishing Group Ltd and British Society of Gastroenterology. All rights reserved; no part of this publication may be reproduced in any form without permission. *Gut* is published by BMJ Publishing Group Ltd, typeset by Exeter Premedia Services Private Ltd, Chennai, India and printed in the UK on acid-free paper

*Gut* is published by BMJ Publishing Group Ltd, typeset by Exeter Premedia Services Private Ltd, Chennai, India and printed in the UK on acid-free paper

*Gut* (ISSN: 0017-5749) (USPS 2278) is published bimonthly by BMJ Publishing Group Ltd, BMA House, Tavistock Square, WC1H 9JR London. Airfreight and mailing in the USA by agent named World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Periodicals postage paid at Brooklyn, NY 11256. US Postmaster: Send address changes to *Gut*, World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Subscription records are maintained at BMA House, Tavistock Square WC1H 9HR London. Air Business Ltd is acting as our mailing agent.

**Leading article**

**1203** Drug development for ulcerative proctitis: current concepts

*B Caron, W J Sandborn, S Schreiber, R Panaccione, S Danese, L Peyrin-Biroulet*

**Commentaries**

**1210** Keeping the liver fit with TREM2 during hepatic carcinogenesis

*F J Cubero*

**1212** NAFLD-related mortality: simple hepatic steatosis is not as 'benign' as thought

*H Tilg, G Targher*

**Guidelines**

**1214** British Society of Gastroenterology guidelines on the management of irritable bowel syndrome

*D H Vasant, P A Paine, C J Black, L A Houghton, H A Everitt, M Corsetti, A Agrawal, I Aziz, A D Farmer, M P Eugenicis, R Moss-Morris, Y Yiannakou, A C Ford*

**Endoscopy news**

**1241** Effects of SARS-CoV-2 emergency measures on high-risk lesions detection: a multicentre cross-sectional study

*M Furnari, L H Eusebi, E Savarino, C Petruzzellis, G Esposito, M Maida, L Ricciardiello, S Pecere, A Buda, M De Bona, C Spada, E Di Giulio, G Costamagna, I Boskoski, E G Giannini, The Young-ENDO-ITA Study Group*

**Stomach**

**1244** Endoscopic placement of covered versus uncovered self-expandable metal stents for palliation of malignant gastric outlet obstruction

*K Yamao, M Kitano, Y Chiba, T Ogura, T Eguchi, I Moriyama, Y Yamashita, H Kato, T Kayahara, N Hoki, Y Okabe, H Shiomi, Y Nakai, Y Kushiyama, Y Fujimoto, S Hayashi, S Bamba, Y Kudo, N Azemoto, T Ueki, N Uza, M Asada, K Matsumoto, H Nebiki, H Takihara, C Noguchi, H Kamada, K Nakase, D Goto, T Sanuki, T Koga, S Hashimoto, H Nishikiori, M Serikawa, K Hanada, K Hiraio, M Ohana, I Kazuyuki, T Kato, M Yoshida, H Kawamoto*

**COVID-19**

**1253** Alterations in the human oral and gut microbiomes and lipidomics in COVID-19

*Z Ren, H Wang, G Cui, H Lu, L Wang, H Luo, X Chen, H Ren, R Sun, W Liu, X Liu, C Liu, A Li, X Wang, B Rao, C Yuan, H Zhang, J Sun, X Chen, B Li, C Hu, Z Wu, Z Yu, Q Kan, L Li*

**Inflammatory bowel disease**

**1266** Health outcomes of 1000 children born to mothers with inflammatory bowel disease in their first 5 years of life

*S L Kanis, S Modderman, J C Escher, N Erler, R Beukers, N de Boer, A Bodelier, A C T M Depla, G Dijkstra, A-B R M van Dijk, L Gilissen, F Hoentjen, J M Jansen, J Kuyvenhoven, N Mahmmoud, R C Mallant-Hent, A E van der Meulen-de Jong, A Noruzi, B Oldenburg, L E Oostenbrug, P C J Ter Borg, M Pierik, M Romberg-Camps, W Thijs, R West, A de Lima, C J van der Woude, On behalf of the Initiative on Crohns and Colitis (ICC)*

**Neurogastroenterology**

**1275** Effect of resolvins on sensitisation of TRPV1 and visceral hypersensitivity in IBS

*E Perna, J Aguilera-Lizarraga, M V Florens, P Jain, S A Theofanous, N Hanning, J G De Man, M Berg, B De Winter, Y A Alpizar, K Talavera, P Vanden Bergh, M Wouters, G Boeckstaens*

**Gut microbiota**

**1287** Long-term dietary patterns are associated with pro-inflammatory and anti-inflammatory features of the gut microbiome

*L A Bolte, A Vich Vila, F Imhann, V Collij, R Gacesa, V Peters, C Wijmenga, A Kurilshikov, M J E Campmans-Kuijpers, J Fu, G Dijkstra, A Zhernakova, R K Weersma*

**1299** Microbiota tryptophan metabolism induces aryl hydrocarbon receptor activation and improves alcohol-induced liver injury

*L Wrzosek, D Ciocan, C Hugot, M Spatz, M Dupeux, C Houron, V Lievin-Le Moal, V Puchois, G Ferrere, N Trainel, F Mercier-Nomé, S Durand, G Kroemer, C S Voican, P Emond, M Siraube, H Sokol, G Perlemuter, A-M Cassard*

**MORE CONTENTS ►**



This article has been chosen by the Editor to be of special interest or importance and is freely available online.



This article has been made freely available online under the BMJ Journals open access scheme. See <http://authors.bmj.com/open-access/>



Member since 2008  
JN00004

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics

[www.publicationethics.org](http://www.publicationethics.org)



When you have finished with this magazine please recycle it.

## Endoscopy

- 1309** Interval cancer after colonoscopy in the Austrian National Screening Programme: influence of physician and patient factors  
*E Waldmann, D Penz, H Šinkovec, G Heinze, C Rinner, L Jiricka, B Majcher, A Hinterberger, M Trauner, M Ferlitsch*

## Colon

- 1318** Faecal immunochemical test after negative colonoscopy may reduce the risk of incident colorectal cancer in a population-based screening programme

*S-M Peng, W-F Hsu, Y-W Wang, L-J Lin, A M-F Yen, L-S Chen, Y-C Lee, M-S Wu, T H-H Chen, H-M Chiu*

- 1325** Genetic architectures of proximal and distal colorectal cancer are partly distinct

*J R Huyghe, T A Harrison, S A Bien, H Hampel, J C Figueiredo, S L Schmit, D V Conti, S Chen, C Qu, Y Lin, R Barfield, J A Baron, A J Cross, B Diergaarde, D Duggan, S Harlid, L Imaz, H M Kang, D M Levine, V Perduca, A Perez-Cornago, L C Sakoda, F R Schumacher, M L Slattery, A E Toland, F J B van Duijnhoven, B Van Guelpen, A Agudo, D Albanes, M H Alonso, K Anderson, C Arnanu-Collell, V Arndt, B L Banbury, M C Bassik, S I Berndt, S Bézieau, D T Bishop, J Boehm, H Boeing, M-C Boutron-Ruault, H Brenner, S Brezina, S Buch, D D Buchanan, A Burnett-Hartman, B J Caan, P T Campbell, P R Carr, A Castells, S Castellví-Bel, A T Chan, J Chang-Claude, S J Chanock, K R Curtis, A de la Chapelle, D F Easton, D R English, E J M Feskens, M Gala, S J Gallinger, W J Gauderman, G G Giles, P J Goodman, W M Grady, J S Grove, A Gsur, M J Guter, R W Haile, J Hampe, M Hoffmeister, J L Hopper, W-L Hsu, W-Y Huang, T J Hudson, M Jenab, M A Jenkins, A D Joshi, T O Keku, C Kooperberg, T Kühn, S Küry, L Le Marchand, F Lejbkovicz, C I Li, L Li, W Lieb, A Lindblom, N M Lindor, S Männistö, S D Markowitz, R L Milne, L Moreno, N Murphy, R Nassir, K Offit, S Ogino, S Panico, P S Parfrey, R Pearlman, P D P Pharoah, A I Phipps, E A Platz, J D Potter, R L Prentice, L Qi, L Raskin, G Rennert, H S Rennert, E Riboli, C Schafmayer, R E Schoen, D Seminara, M Song, Y-R Su, C M Tangen, S N Thibodeau, D C Thomas, A Trichopoulou, C M Ulrich, K Visvanathan, P Vodicka, L Vodickova, V Vymetalkova, K Weigl, S J Weinstein, E White, A Wolk, M O Woods, A H Wu, G R Abecasis, D A Nickerson, P C Scacheri, A Kundaje, G Casey, S B Gruber, L Hsu, V Moreno, R B Hayes, P A Newcomb, U Peters*

## Pancreas

- 1335** Utilisation of artificial intelligence for the development of an EUS-convolutional neural network model trained to enhance the diagnosis of autoimmune pancreatitis  
*N B Marya, P D Powers, S T Chari, F C Gleeson, C L Leggett, B K Abu Dayyeh, V Chandrasekhara, P G Iyer, S Majumder, R K Pearson, B T Petersen, E Rajan, T Sawas, A C Storm, S S Vege, S Chen, Z Long, D M Hough, K Mara, M J Lev*

## Hepatology

- 1345** TREM-2 defends the liver against hepatocellular carcinoma through multifactorial protective mechanisms

*A Esparza-Baquer, I Labiano, O Sharif, A Agirre-Lizaso, F Oakley, P M Rodrigues, E Zhuravleva, C J O'Rourke, E Hijona, R Jimenez-Agüero, I Riaño, A Landa, A La Casta, M Y W Zaki, P Munoz-Garrido, M Azkargorta, F Elortza, A Vogel, G Schabbauer, P Aspichuea, J B Andersen, S Knapp, D A Mann, L Bujanda, J M Banales, M J Perugorria*

- 1362** Bioinformatic analysis of RHO family of GTPases identifies RAC1 pharmacological inhibition as a new therapeutic strategy for hepatocellular carcinoma

*J Bayo, E J Fiore, L M Dominguez, M J Cantero, M S Ciarlantini, M Malvicini, C Aitorrasagasti, M G Garcia, M Rossi, C Cavasotto, E Martinez, J Comin, G D Mazzolini*

- 1375** Mortality in biopsy-confirmed nonalcoholic fatty liver disease: results from a nationwide cohort

*T G Simon, B Roelstraete, H Khalili, H Hagström, J F Ludvigsson*

## Recent advances in basic science

- 1383** Niche-specific functional heterogeneity of intestinal resident macrophages

*M F Viola, G Boeckxstaens*

## Recent advances in clinical practice

- 1396** 25 years of anti-TNF treatment for inflammatory bowel disease: lessons from the past and a look to the future  
*G R D'Haens, S van Deventer*

## JournalScan

- 1406** GI highlights from the literature  
*P J Smith*

## PostScript

- 1409** Letters



## Editor's quiz: GI snapshot

- 1252** Don't judge a book by its cover: except during optical evaluation  
*N Shahidi, W A van Hattem, S Vosko, M J Bourke*