



St Colman's Cathedral and iconic coloured houses in Cobh, County Cork, Ireland. Read in this issue the outstanding article by Ghosh et al reporting the effects of the NU-AGE 1-year Mediterranean dietary intervention trial in older people across five European countries.

An international journal of gastroenterology and hepatology
Impact Factor: 17.943

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 Boeckxstaens (Belgium)

Patrice Cani (Belgium)

Jean-Francois Dufour (Switzerland)

Thomas Gress (Germany)

Christian Jobin (USA)

Arthur Kaser (UK)

Ernst Kuipers (The Netherlands)

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)

Editorial Office

Gut

BMJ Journals

BMA House, Tavistock Square

London, WC1H 9JR, UK

E: 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 © 2020 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 (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 WN Shipping USA, 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Brooklyn, NY 11256. US Postmaster: Send address changes to *Gut*, WN Shipping USA, 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Subscription records are maintained at BMA House, Tavistock Square WC1H 9JR London. Air Business Ltd is acting as our mailing agent.

Contents

Volume 69 Issue 7 | **GUT** July 2020

Leading article

- 1157** Challenges and opportunities for IBD drug development: from early stage to regulatory approval

S Danese, E Schabel, M A Ainsworth, L Peyrin-Biroulet

Commentaries

- 1162** Hepatitis D virus: is it all in the family?

A Boyd, G Wandeler

- 1164** Non-invasive diagnosis of patients with 'at-risk' NAFLD : only fibrosis counts?

A Geier, J Boursier

- 1165** New role for azathioprine in case of switching anti-TNFs in IBD

K Papamichael, A S Cheifetz, P M Irving

- 1167** Mediterranean diet, gut microbiota and health: when age and calories do not add up!



P D Cani, M Van Hul

Endoscopy news

- 1169** Detection of Barrett's oesophagus through exhaled breath using an electronic nose device

Y Peters, R W M Schrauwen, A C Tan, S K Bogers, B de Jong, P D Siersema

Guidelines

- 1173** Transjugular intrahepatic portosystemic stent-shunt in the management of portal hypertension



D Tripathi, A J Stanley, P C Hayes, S Travis, M J Armstrong, E A Tsochatzis, I A Rowe, N Roslund, H Ireland, M Lomax, J A Leithead, H Mehrzad, R J Aspinall, J McDonagh, D Patch

Stomach

- 1193** METTL3-mediated m⁶A modification of HDGF mRNA promotes gastric cancer progression and has prognostic significance

Q Wang, C Chen, Q Ding, Y Zhao, Z Wang, J Chen, Z Jiang, Y Zhang, G Xu, J Zhang, J Zhou, B Sun, X Zou, S Wang

Inflammatory bowel disease

- 1206** Addition of azathioprine to the switch of anti-TNF in patients with IBD in clinical relapse with undetectable anti-TNF trough levels and antidrug antibodies: a prospective randomised trial

X Roblin, N Williet, G Boschetti, J-M Phelip, E Del Tedesco, A-E Berger, P Vedrines, G Duru, L Peyrin-Biroulet, S Nancey, B Flourie, S Paul

COVID-19

- 1213** Outcomes of COVID-19 in 79 patients with IBD in Italy: an IG-IBD study

C Bezzio, S Saibeni, A Variola, M Allocca, A Massari, V Gerardi, V Casini, C Ricci, F Zingone, A Amato, F Caprioli, M V Lenti, C Viganò, M Ascolani, F Bossa, F Castiglione, C Cortelezzi, L Grossi, M Milla, D Morganti, L Pastorelli, D G Ribaldone, A Sartini, A Soriano, G Manes, S Danese, M Fantini, A Armuzzi, M Daperno, G Fiorino, on behalf of Italian Group for the Study of Inflammatory Bowel Disease (IG-IBD)

Nutrition

- 1218** Mediterranean diet intervention alters the gut microbiome in older people reducing frailty and improving health status: the NU-AGE 1-year dietary intervention across five European countries

T S Ghosh, S Rampelli, I B Jeffery, A Santoro, M Neto, M Capri, E Giampieri, A Jennings, M Candela, S Turroni, E G Zoetendal, G D A Hermes, C Elodie, N Meunier, C M Brugere, E Pujos-Guillot, A M Berendsen, L C P G M De Groot, E J M Feskens, J Kaluza, B Pietruszka, M J Bielak, B Comte, M Maijo-Ferre, C Nicoletti, W M De Vos, S Fairweather-Tait, A Cassidy, P Brigidi, C Franceschi, P W O'Toole

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/>

C O P E

Member since 2008

JM00004

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

www.publicationethics.org.uk



When you have finished with this magazine please recycle it.

Gut: first published as on 1 July 2020. Downloaded from <http://gut.bmj.com/> on May 21, 2025 at Department GEZ-LTA ErasmusHogeschool. Protected by copyright, including for uses related to text and data mining, AI training, and similar technologies.

Gut microbiota

- 1229** Gut microbiota of obese subjects with Prader-Willi syndrome is linked to metabolic health



L M Olsson, C Poitou, V Tremaroli, M Coupaye, J Aron-Wisniewsky, F Bäckhed, K Clément, R Caesar

- 1239** Myristoleic acid produced by enterococci reduces obesity through brown adipose tissue activation

L-H Quan, C Zhang, M Dong, J Jiang, H Xu, C Yan, X Liu, H Zhou, H Zhang, L Chen, F-L Zhong, Z-B Luo, S-M Lam, G Shui, D Li, W Jin

- 1248** A novel faecal *Lachnoclostridium* marker for the non-invasive diagnosis of colorectal adenoma and cancer



J Q Liang, T Li, G Nakatsu, Y-X Chen, T O Yau, E Chu, S Wong, C H Szeto, S C Ng, F K L Chan, J-Y Fang, J J Y Sung, J Yu

- 1258** Mediterranean diet intervention in overweight and obese subjects lowers plasma cholesterol and causes changes in the gut microbiome and metabolome independently of energy intake



V Meslier, M Laiola, H M Roager, F De Filippis, H Roume, B Quinquis, R Giacco, I Mennella, R Ferracane, N Pons, E Pasolli, A Rivellese, L O Dragsted, P Vitaglione, S D Ehrlich, D Ercolini

Colon

- 1269** STAT3 activation through IL-6/IL-11 in cancer-associated fibroblasts promotes colorectal tumour development and correlates with poor prognosis

C Heichler, K Scheibe, A Schmied, C I Geppert, B Schmid, S Wirtz, O-M Thoma, V Kramer, M J Waldner, C Büttner, H F Farin, M Pešić, F Knieling, S Merkel, A Grüneboom, M Gunzer, R Griitzmann, S Rose-John, S B Koralov, G Kollias, M Vieth, A Hartmann, F R Greten, M F Neurath, C Neufert

- 1283** Genomic and transcriptomic profiling of carcinogenesis in patients with familial adenomatous polyposis



J Li, R Wang, X Zhou, W Wang, S Gao, Y Mao, X Wu, L Guo, H Liu, L Wen, W Fu, F Tang

Hepatology

- 1294** The epidemiology of hepatitis delta virus infection in Cameroon

C Besombes, R Njouom, J Paireau, G Lachenal, G Texier, M Tejiokem, S Cauchemez, J Pépin, A Fontanet

- 1301** Comparison of tenofovir and entecavir on the risk of hepatocellular carcinoma and mortality in treatment-naïve patients with chronic hepatitis B in Korea: a large-scale, propensity score analysis



S W Lee, J H Kwon, H L Lee, S H Yoo, H C Nam, P S Sung, S W Nam, S H Bae, J Y Choi, S K Yoon, N I Han, J W Jang

- 1309** miR-541 potentiates the response of human hepatocellular carcinoma to sorafenib treatment by inhibiting autophagy

W-P Xu, J-P Liu, J-F Feng, C-P Zhu, Y Yang, W-P Zhou, J Ding, C-K Huang, Y-L Cui, C-H Ding, X Zhang, B Lu, W-F Xie

- 1322** USP22 promotes hypoxia-induced hepatocellular carcinoma stemness by a HIF1 α /USP22 positive feedback loop upon TP53 inactivation

S Ling, Q Shan, Q Zhan, Q Ye, P Liu, S Xu, X He, J Ma, J Xiang, G Jiang, X Wen, Z Feng, Y Wu, T Feng, L Xu, K Chen, X Zhang, R Wei, C Zhang, B Cen, H Xie, P Song, J Liu, S Zheng, X Xu

Recent advances in basic science

- 1335** COVID-19 and immunomodulation in IBD



M F Neurath

Recent advances in clinical practice

- 1343** Advances in non-invasive assessment of hepatic fibrosis

R Loomba, L A Adams

JournalScan

- 1353** GI highlights from the literature

P J Smith

PostScript

- 1355** Letters



Editor's quiz: GI snapshot

- 1161** Unusual cystic lesion adjacent to the stomach

J J McGoran, J H Mullineux, C D Sutton, S R Kadri