

# Gastroenterology

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A class of drugs used to treat inflammatory bowel diseases and other immune-mediated diseases, call JAK inhibitors, can be effective but they increase risk of herpes zoster infection.

**1574 Microscopic Colitis and Risk of Inflammatory Bowel Disease in a Nationwide Cohort Study***H. Khalili, K. E. Burke, B. Roelstraete, M. C. Sachs, O. Olén, and J. F. Ludvigsson*

We found persons with microscopic colitis to be at increased risk for Crohn's disease and ulcerative colitis.

**1584 Development of the Microbiota and Associations With Birth Mode, Diet, and Atopic Disorders in a Longitudinal Analysis of Stool Samples, Collected From Infancy Through Early Childhood***G. Galazzo, N. van Best, L. Bervoets, I. O. Dapaah, P. H. Savelkoul, M. W. Hornef, the GI-MDH consortium, S. Lau, E. Hamelmann, and J. Penders*

We analyzed stool samples collected from children 5 weeks old through 6–11 years. We identified microbes that change in abundance based on vaginal vs cesarean birth, when breastfeeding ends, and in children that develop allergies or asthma.

**Clinical—Liver****1597 Synbiotics Alter Fecal Microbiomes, But Not Liver Fat or Fibrosis, in a Randomized Trial of Patients With Nonalcoholic Fatty Liver Disease***E. Scorletti, P. R. Afolabi, E. A. Miles, D. E. Smith, A. Almeahadi, A. Alshathry, C. E. Childs, S. Del Fabbro, J. Bilson, H. E. Moyses, G. F. Clough, J. K. Sethi, J. Patel, M. Wright, D. J. Breen, C. Peebles, A. Darekar, R. Aspinall, A. J. Fowell, J. K. Dowman, V. Nobili, G. Targher, N. M. Delzenne, L. B. Bindels, P. C. Calder, and C. D. Byrne*

Patients with NAFLD were given a combination of probiotic and prebiotic agents (synbiotic) or a placebo for 1 year. The synbiotic altered the composition of microbes in fecal samples, but did not affect liver fat or markers of liver scarring.

**1611 Association Between Fibrosis Stage and Outcomes of Patients With Nonalcoholic Fatty Liver Disease: A Systematic Review and Meta-Analysis**

R. S. Taylor, R. J. Taylor, S. Bayliss, H. Hagström, P. Nasr, J. M. Schattenberg, M. Ishigami, H. Toyoda, V. Wai-Sun Wong, N. Peleg, A. Shlomei, G. Sebastiani, Y. Seko, N. Bhala, Z. M. Younossi, Q. M. Anstee, S. McPherson, and P. N. Newsome

In an analysis of data from 13 previously published studies, this study found stage of fibrosis, determined by biopsy analysis, to be associated with mortality and morbidities in patients with NAFLD.

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A. Masamune, H. Kotani, F. L. Sörgel, J.-M. Chen, S. Hamada, R. Sakaguchi, E. Masson, E. Nakano, Y. Kakuta, T. Niihori, R. Funayama, M. Shirota, T. Hirano, T. Kawamoto, A. Hosokoshi, K. Kume, L. Unger, M. Ewers, H. Laumen, P. Bugert, M. X. Mori, V. Tsvilovskyy, P. Weißgerber, U. Kriebs, C. Fecher-Trost, M. Freichel, K. N. Diakopoulos, A. Berninger, M. Lesina, K. Ishii, T. Itoi, T. Ikeura, K. Okazaki, T. Kaune, J. Rosendahl, M. Nagasaki, Y. Uezono, H. Algül, K. Nakayama, Y. Matsubara, Y. Aoki, C. Férec, Y. Mori, H. Witt, and T. Shimosegawa

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We analyzed genetic features of patients with chronic pancreatitis not associated with alcohol consumption, and found that they more frequently carry variants in a gene that encodes a calcium channel, compared with controls. Studies are needed to determine how these alterations contribute to pancreatic inflammation.

**1642 Antibiotic Prophylaxis Is Not Required for Endoscopic Ultrasonography-Guided Fine-Needle Aspiration of Pancreatic Cystic Lesions, Based on a Randomized Trial**

J. Colán-Hernández, O. Sendino, C. Loras, A. Pardo, J. B. Gornals, M. Concepción, C. Sánchez-Montes, M. Murzi, X. Andujar, J. Velasquez-Rodríguez, C. Rodríguez de Miguel, G. Fernández-Esparrach, A. Ginés, and C. Guarner-Argente

Patients have a low risk of infection during EUS-FNA evaluation of pancreatic cysts, so antibiotics are not necessary.

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M. Hata, H. Kinoshita, Y. Hayakawa, M. Konishi, M. Tsuboi, Y. Oya, K. Kurokawa, Y. Hayata, H. Nakagawa, K. Tateishi, H. Fujiwara, Y. Hirata, D. L. Worthley, Y. Muranishi, T. Furukawa, S. Kon, H. Tomita, T. C. Wang, and K. Koike

We identified cells in stomach of mice that might serve as the precursors to metaplasia and gastric cancer.

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T. L. Freitag, J. R. Podojil, R. M. Pearson, F. J. Fokta, C. Sahl, M. Messing, L. C. Andersson, K. Leskinen, P. Saavalainen, L. I. Hoover, K. Huang, D. Phippard, S. Maleki, N. J. C. King, L. D. Shea, S. D. Miller, S. K. Meri, and D. R. Getts

We developed nanoparticles that reduce sensitivity to wheat proteins in mice, and might be used to treat celiac disease in patients.

**1682 Identification of Subtypes of Barrett's Esophagus and Esophageal Adenocarcinoma Based on DNA Methylation Profiles and Integration of Transcriptome and Genome Data**

S. Jammula, A. C. Katz-Summercorn, X. Li, C. Linossi, E. Smyth, S. Killcoyne, D. Biasci, V. V. Subash, S. Abbas, A. Blasko, G. Devonshire, A. Grantham, F. Wronowski, M. O'Donovan, N. Grehan, M. D. Eldridge, S. Tavaré, the Oesophageal Cancer Clinical and Molecular Stratification (OCCAMS) consortium, R. C. Fitzgerald

The authors studied molecular features of esophageal tumors and non-tumor tissues, and identified changes that might contribute to their development and be targeted for treatment.

**Basic and Translational—Liver****1698 Mice With Increased Numbers of Polyploid Hepatocytes Maintain Regenerative Capacity But Develop Fewer Hepatocellular Carcinomas Following Chronic Liver Injury**

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Y.-H. Lin, S. Zhang, M. Zhu, T. Lu, K. Chen, Z. Wen, S. Wang, G. Xiao, D. Luo, Y. Jia, L. Li, M. MacConmara, Y. Hoshida, A. G. Singal, A. Yopp, T. Wang, and H. Zhu

Polyploid hepatocytes with whole-genome duplications are commonly found in the liver but their importance is not known. Increasing the number of polyploid hepatocytes in mice reduced development of liver tumors without compromising tissue regeneration during chronic liver injury.

**1713 High Serum Levels of Cholesterol Increase Antitumor Functions of Nature Killer Cells and Reduce Growth of Liver Tumors in Mice**

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W.-H. Qin, Z.-S. Yang, M. Li, Y. Chen, X.-F. Zhao, Y.-Y. Qin, J.-Q. Song, B.-B. Wang, B. Yuan, X.-L. Cui, F. Shen, J. He, Y.-F. Bi, G. Ning, J. Fu, and H.-Y. Wang

High blood levels of cholesterol increase the anti-tumor activities of specific immune cells in mice. Strategies to increase cholesterol activation of these cells might be developed for treatment of liver cancer in patients.

**1728 Identification of Lineage-Specific Transcription Factors That Prevent Activation of Hepatic Stellate Cells and Promote Fibrosis Resolution**

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X. Liu, J. Xu, S. Rosenthal, L.-j. Zhang, R. McCubbin, N. Meshgin, L. Shang, Y. Koyama, H.-Y. Ma, S. Sharma, S. Heinz, C. K. Glass, C. Benner, D. A. Brenner, and T. Kisseleva

This study identified proteins that regulate genes that control activation of liver cells involved in development or resolution of fibrosis. These proteins might be targeted for treatment of liver fibrosis.

**1745 Peritoneal Level of CD206 Associates With Mortality and an Inflammatory Macrophage Phenotype in Patients With Decompensated Cirrhosis and Spontaneous Bacterial Peritonitis**

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S. Stengel, S. Quickert, P. Lutz, O. Ibdapo-Obe, A. Steube, N. Köse-Vogel, M. Yarbakht, P. A. Reuken, M. Busch, A. Brandt, I. Bergheim, S. D. Deshmukh, A. Stallmach, and T. Bruns

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**1762 Knockdown of Virus Antigen Expression Increases Therapeutic Vaccine Efficacy in High-Titer Hepatitis B Virus Carrier Mice**

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T. Michler, A. D. Kosinska, J. Festag, T. Bunse, J. Su, M. Ringelhan, H. Imhof, D. Grimm, K. Steiger, C. Mogler, M. Heikenwalder, M.-L. Michel, C. A. Guzman, S. Milstein, L. Sepp-Lorenzino, P. Knolle, and U. Protzer

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*AGA Institute*

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