Symposium 211

XXV International Bile Acid Meeting: Bile Acids in Health and Disease 2018

July 6–7, 2018
Clayton Hotel
Burlington Road
Dublin, Ireland

Organized by:
FALK FOUNDATION e.V.
Leinenweberstr. 5
79108 Freiburg
Germany

Program
11 credit hours (CME) have been awarded for the Symposium 211 by the European Union of Medical Specialists (UEMS).
Preface

Since the last International Bile Acid Meeting in Düsseldorf in 2016, the field of bile acid research has continued to flourish and bile acid signaling as well as the molecular genetics of cholestatic syndromes represent important areas of research. New insights have been gained into the role of bile acid signaling in the liver and intestine and the role of bile acids and their receptors in the gut liver axis. The findings that the nuclear bile acid receptor FXR plays an essential role not only in maintaining energy balance, but also in the development of obesity and NASH as well as in cancer protection, offer novel aspects on the pathogenesis of these diseases as well as potential therapeutic targets. The XXV International Bile Acid Meeting, which will be held in Dublin, will be dedicated to both basic and clinical aspects of bile acid research with focus on the role of bile acid signaling in non-alcoholic steatohepatitis, in GI-tumor development, the interaction of bile acids with the microbiome, the gut liver axis as well as extrahepatic effects of bile acids in cholestasis. Emphasis will be laid also on the molecular and genetic analysis of various cholestatic diseases and cholangiopathies. Novel aspects of bile acid transport as well as therapeutic strategies using bile acid derivatives or bile acid receptor agonists represent another focus of this conference. The latest findings will be presented by leading scientists and clinicians in these fields. During the symposium a poster session will also take place. In line with the tradition of the International Bile Acid Meetings some of the best poster abstracts have been selected by the scientific committee and the authors will be invited for oral presentations. The organizers of the XXV International Bile Acid Meeting look forward to welcoming you in Dublin.

Dieter Häussinger (Chairman of the Organizing Committee)
XXV International Bile Acid Meeting: Bile Acids in Health and Disease 2018

July 6–7, 2018
Clayton Hotel Burlington Road Dublin, Ireland

Start of Registration:
Thursday, July 5, 2018
16.00 – 21.00 h
at the congress office

Setting Up of Poster Session:
Thursday, July 5, 2018
16.00 – 21.00 h

Congress Venue:
Clayton Hotel Burlington Road
Upper Leeson Street
D04 A318 Dublin 4
Ireland

Symposium 211 is organized by Falk Foundation e.V.

Scientific Organization:
Prof. Dr. Dieter Häussinger
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Scientific Co-Organization:
U. Beuers (The Netherlands)
V. Keitel (Germany)
M. Trauner (Austria)

Local Organizer:
S.J. Keely (Ireland)

Official Language:
English
Friday, July 6, 2018

8.30 Welcome  D. Häussinger, Düsseldorf

Session I
Bile acid signaling in health and disease
Chair: D. Häussinger, Düsseldorf; S.J. Keely, Dublin

8.40 Targeting the glucocorticoid receptor for intrahepatic cholestasis  D.D. Moore, Houston

9.00 Post-transcriptional regulation of hepatic bile acid and lipid metabolism  T.A. Vallim, Los Angeles

9.20 Phospholipid transport by ABCB4: Novel insights into the floppase activity  L. Schmitt, Düsseldorf

9.40 Oral Poster Presentation
Taurocholate upregulates lncRNA H19 in cholangiocytes and activates hepatic stellate cells via exosome release under cholestatic conditions  H. Zhou, Richmond

10.00 Coffee break with poster session

Session II
Interaction of bile acids and the intestinal microbiome
Chair: U. Beuers, Amsterdam; A.F. Hofmann, La Jolla

10.50 Microbiome and bile acid interactions  A. Wahlström, Gothenburg

11.10 Modification of the human intestinal microbiome by obeticholic acid  G.D. Wu, Philadelphia

11.30 Bile acid microbiome interaction in thermogenesis  J. Heeren, Hamburg

11.50 Antibiotics secreted by gut bacteria regulate Clostridium difficile growth and the structure of the gut microbiome: Role of secondary bile acids  P.B. Hylemon, Richmond

12.10 Oral Poster Presentation
Enhanced microbial deconjugation of bile acids in pregnancy represses intestinal FXR-mediated regulation of hepatic bile acid synthesis  C. Ovadia, London

12.30 Lunch break with poster session
Friday, July 6, 2018

14.00  Presentation of Adolf Windaus Prize  
D. Häussinger,  
Düsseldorf

14.10  Adolf Windaus Prize Lecture  
B. Stieger,  
Zürich

Session III
Bile acid transport in health and disease

Chair: V. Keitel, Düsseldorf; D.D. Moore, Houston

14.30 Visualization of bile flux in liver by 2-photon microscopy:  
The principle of diffusion-limited bile canalicular transport  
J.G. Hengstler,  
Dortmund

14.50 Inhibition of bile acid reabsorption to ameliorate  
cholestatic liver injury  
S. van de Graaf,  
Amsterdam

15.10 IgG4-associated cholangitis - Another model  
cholangiopathy with an underlying defect of the biliary  
bicarbonate umbrella?  
U. Beuers,  
Amsterdam

15.30 Bile acid transport in the intestine: From genetic  
variants to therapeutic targets  
P.A. Dawson,  
Atlanta

15.50 Oral Poster Presentation  
Inactivation of the intestinal apical sodium bile acid  
transporter profoundly inhibits cholesterol absorption  
H.J. Verkade,  
Groningen

16.10 Coffee break with poster session

Session IV
Bile acid transport in health and disease

Chair: P.B. Hylemon, Richmond; R.P.J. Oude Elferink, Amsterdam

17.00 Defect in hepatic tight junction proteins (TJP2, DCDC2,  
Claudin-1) as cause of cholestasis and cholangitis in children  
R.J. Thompson,  
London

17.20 Analysis of transporter defects in children and adults  
with cholestatic liver disease  
C. Dröge,  
Düsseldorf

17.40 Genetic determinants of cholangiopathies: Molecular  
and systems genetics  
F. Lammert,  
Homburg

18.00 Oral Poster Presentation  
Loss of BSEP/ABCB11 protects MDR2/ABCB4 KO mice  
from cholestatic liver injury by altering bile acid profile  
and signaling  
C. Fuchs,  
Vienna

18.20 Scientific discussion with snacks
Saturday, July 7, 2018

Session V
Extrahepatic effects of bile acids and bile acid receptors

Chair: J.M. Banales, San Sebastian; P. Fickert, Graz

8.30  Targeting bile acids in intestinal disease  S.J. Keely, Dublin

8.50  Interaction of gut microbiota and bile acids in NAFLD  S. Kersten, Wageningen

9.10  Altered bile acid signaling in NAFLD in humans  L. Zhu, Buffalo

9.30  Bile acids increase serum corticosterone levels in cholemic mice and induce cortisol secretion in adrenocortical H295R cells in an S1PR2-ERK-SF-1-dependent manner  P. Fickert, Graz

9.50  Oral Poster Presentation
Targeting host and microbial choline metabolism by a semi-synthetic bile acid suppresses TMA/TMAO formation and ameliorates atherosclerosis and NASH in mice  T. Moustafa, Graz

10.10  Coffee break with poster session

Session VI
Bile acid receptors and bile acid signaling as therapeutic targets

Chair: M.A. Avila, Pamplona; M. Trauner, Vienna

10.40  Targeting TGR5 to treat polycystic liver disease  N.F. LaRusso, Rochester

11.00  TGR5 in inflammatory liver disease  V. Keitel, Düsseldorf

11.20  FXR agonists in portal hypertension  T. Reiberger, Vienna

11.40  Intestinal FXR agonism and fibroblast growth factor 19 protect against colitis and intestinal tumorigenesis  A. Moschetta, Bari

12.00  Oral Poster Presentation
Treatment response of murine sclerosing cholangitis to systemic versus intestinal FXR agonists segregates with their effects on hepatic pro-inflammatory cytokine production  T. Shi, Cincinnati

12.20  Lunch break with poster session
Saturday, July 7, 2018

Session VII
Bile acid receptors and bile acid signaling as therapeutic targets

Chair: N.F. LaRusso, Rochester; C. Williamson, London

14.00 Amphiregulin/EGFR as therapeutic target in liver disease M.A. Avila, Pamplona

14.20 Stimulation of ammonium detoxification via FXR; where isoforms matter S.W.C. van Mil, Utrecht

14.40 Role of miR506 in primary biliary cholangitis J.M. Banales, San Sebastian

15.00 Clinical and mechanistic aspects of nor-ursodeoxycholic acid (norUDCA) M. Trauner, Vienna

15.20 Oral Poster Presentation
Serum biomarker development demonstrating the transformation of fatty liver to steatohepatitis in association with diabetes mellitus G. Kakiyama, Richmond

15.40 Presentation of Poster Awards D. Häussinger, Düsseldorf

15.50 Farewell D. Häussinger, Düsseldorf
Adolf Windaus (1876-1959)

Adolf Windaus was born on Christmas Day in 1876 in Berlin, where his father owned a factory. Even as a young student in the Berlin gymnasium, he was fascinated by the epochal discoveries of Koch and Pasteur, and by his 18th birthday he had decided on a scientific career. He entered medical school, taking his pre-clinical year at the University of Freiburg and his clinical years in Berlin. However, he soon realized, especially during the lectures of Emil Fischer, that biological processes could be understood only when the chemical structure of organisms was known. Therefore, as soon as he had finished medical school, he returned to Freiburg to study chemistry under the supervision of Heinrich Kiliani. In 1899, he completed his first research project which dealt with the chemical composition of digitalis. He then spent two years in compulsory military service in Berlin. During this time he also worked in the laboratory of Emil Fischer, carrying out studies on derivatives of aniline. On completing his military service, Windaus returned to the University of Freiburg where he began his life-long work on the structure of cholesterol. His thesis, which qualified him for the position of docent, had the simple title „Über Cholesterin“. The choice of this research topic originated from Windaus’ logical belief that any substance which was so widely distributed in animal and plant tissues must have an important biological function, and that understanding of its structure and function might lead to unifying concepts, a hypothesis he would subsequently prove so brilliantly. In addition to initiating studies on cholesterol, he and his colleague Knoop soon discovered that an amino acid containing the imidazole ring, histidine, was present in proteins, and could be decarboxylated to give histamine. The discovery of histamine opened a vast area of pharmacological research.

In 1913, Adolf Windaus accepted a call to direct the prestigious Institute of Medical Chemistry in Innsbruck, Austria, where earlier Pregl had founded microanalytical chemistry. Two years later, in 1915, he was called to be Director of the Chemical Laboratories of the University of Göttingen, laboratories rich in tradition since the time of Wöhler. Here, he could pursue his work on elucidating the structure of cholesterol in a series of integrated investigations that were truly Herculean in scope. In the year 1919 a most significant discovery was made. Windaus found that coprostanol could be oxidized to cholestanolic acid. With the knowledge of this transformation, came the realization of the close structural similarity of cholesterol and bile acids; one could now apply the existing knowledge of cholesterol structure to that of bile acids and that of bile acids to cholesterol. The work of elucidating the exact structure of the condensed steroid rings of steroids was extraordinarily difficult. To understand the structural isomerism of the A / B ring juncture, it was necessary to study the simplest model compounds, cis and trans decalin. This was done with Hueckel, who later became one of the world’s greatest physical chemists.

In the twenties, Adolf Windaus, with his pupils, established the relationships between cholesterol and other important steroids such as sitosterol, the saponins, and the various...
classes of cardiac steroids. He showed that all shared the cyclopentanophenanthrene nucleus. Inspired by Windaus, his pupil Butenandt isolated and determined the structure of the adrenal steroids whose origins from cholesterol had not been suspected by anyone. Butenandt was able to rapidly determine the structure of estrone, androsterone, and progesterone, for which he received the Nobel Prize in 1939.

Probably the climax in the extraordinary research output of Adolf Windaus was his elucidation of the structure and biosynthesis of vitamin D. Hess in New York had made the observation that ultraviolet radiation of a lipid extract induced the formation of active vitamin D. In the next 8 years, Adolf Windaus and his students succeeded in identifying the provitamin as ergosterol and 7-dehydrocholesterol and also in clarifying the structure of vitamin D2 and vitamin D3. The complex steps in photoactivation of the vitamin were clarified, and each intermediate was crystallized and its structure determined.

Thus, the research area of the chemical structure of cholesterol, which Adolf Windaus had selected when still a young docent in Freiburg led to studies spanning over 30 years – studies which opened up a vast – almost limitless field that continues to be active today. His work has been of inestimable significance for the practice of medicine. Adolf Windaus, however, insisted that his research was not aimed at applications, but only at understanding the mysteries of nature.

Adolf Windaus had a legendary reputation among his colleagues and students. He was a man of infinite energy and extraordinary insight, who could reduce scientific problems to their essence. He had the art to ask the right question and do the definitive experiment. Nature disclosed her secrets quickly to a man of such talent. His former associates had continuous admiration for his clarity of speech, both in conversation and scientific discussion. He was a man of modesty and dignity who combined the highest scientific standards with great personal generosity.

For his many discoveries, Adolf Windaus received many honors and awards. Under his leadership, the Chemical Institute in Göttingen became known throughout the world. He was honored by being chosen to receive the Nobel Prize for chemistry in 1928, and his lecture is a masterpiece of erudition, clarity and modesty.

W. Gerok
Adolf Windaus Award

The “Adolf Windaus Award” was founded by the Falk Foundation e. V. and will, for the twentieth time, be presented on the occasion of the XXV International Bile Acid Meeting, on July 6, 2018. The prize amounts to €15,000 and is awarded for outstanding contributions in the field of bile acid research.

Members of the Prize Committee:
U. Beuers (Amsterdam)
D. Häussinger (Düsseldorf)
R.P.J. Oude Elferink (Amsterdam)
A. Parés (Barcelona)
R. Poupon (Paris)
M. Trauner (Vienna)

Windaus Prize Winners:
1980 - C. Einarsson (Stockholm) & K. Hellstrom (Stockholm)
1982 - E. H. Mosbach (New York) & H. Danielsson (Uppsala)
1984 - M. C. Carey (Boston)
1986 - I. Bjorkhem (Huddinge)
1988 - J. L. Boyer (New Haven)
1990 - P. B. Hylemon (Richmond) & P. J. Meier-Abt (Zurich)
1992 - K. Okuda (Hiroshima)
1994 - Z. R. Vlahcevic (Richmond)
1996 - W. Kramer (Frankfurt)
1998 - P. A. Dawson (Winston-Salem)
2000 - D. J. Mangelsdorf (Dallas)
2002 - D. W. Russell (Dallas)
2004 - K. D. R. Setchell (Cincinnati)
2006 - R. Poupon (Paris)
2008 - N. Ballatori (Rochester)
2010 - J. Auwerx & K. Schoonjans (Lausanne)
2012 - G. Paumgartner (Munich)
2014 - S. Kliewer (Dallas)
2016 - D. Keppler (Heidelberg)
2018 - B. Stieger (Zurich)

Coordinator of the Prize Committee:
Prof. Dr. Dieter Häussinger
Department of Internal Medicine
Clinic of Gastroenterology, Hepatology and Infectious Diseases
Heinrich-Heine-University Düsseldorf
Moorenstr. 5
40225 Düsseldorf
Germany
haeuussin@uni-duesseldorf.de
Poster Session

1. Obeticholic acid increases cholesterol saturation and FGF19 in human gallbladder bile

2. Rapid regulation of hepatic lipid metabolism by modulation of bile acid fluxes in humans
   A. Al-Khaifi, S. Straniero, M. Ghosh Laskar, M. Rudling, B. Angelin (Stockholm, SE)

3. In vitro rescue of ABCB11 non-sense mutations: Induction of a readthrough of premature stop codons

4. Ubiquitination of Lys-340 reduces NTCP-mediated bile acid uptake and NTCP plasma membrane expression
   M.D. Appelman, C. Sachetto, M.J.D. Robin, S.F.J. van de Graaf (Amsterdam, NL)

5. Sex hormone-dependent intestinal expression of ASBT determines the sclerosing cholangitis phenotype and the response to pharmacological disruption of enterohepatic circulation of bile acids in Mdr2-/- mice

6. The role of microbiota in sex-specific regulation of lipid metabolism

7. Complex treatment of uncomplicated cholelithiasis at the stage of cholecystolithiasis
   O. Babii, B. Shevchenko, I. Konenko (Dnipro, UA)

8. The use of SeHCAT scans in patients with undiagnosed chronic diarrhea
   A.S. Bancil, J. Cooney, S. Gupta (London, GB)

9. The role of nuclear receptors and histone deacetylases in the regulation of bile acid synthesis in humans: Effects of drug treatment
   M. Bertolotti, C. Anzivino, E. Baldelli, L. Carulli, C. Mussi, C. Gabbi (Modena, IT)

10. Hepatoprotective impact of TGR5: central role of gallbladder function and bile acid pool modulation
11. Impact of miR-24 on a MEN1 and SMAD3 gene expression in primary biliary cholangitis
M. Blatkiewicz, P. Milkiewicz, M. Milkiewicz (Szczecin, Warsaw, PL)

12. Early onset of increased hypercholanemia during pregnancy correlates with higher risk of meconium-stained fluid

13. sGC stimulation and PDE5 inhibition decrease sinusoidal resistance and reduce fibrosis in rats with biliary cirrhosis

14. Bile acids induce hepatic chemokine expression by activating Ca2+/NFAT signaling
S.-Y. Cai, A. Mennone, M.T. Guerra, M. Nathanson, J.L. Boyer (New Haven, US)

15. Modification of the intestinal intraluminal bile acid pool composition upon bariatric surgery in a preclinical minipig model

16. Both intestine-specific and renal/hepatic inhibition of the bile salt transporter ASBT ameliorates cholestatic liver injury
H.-W. Chen, J.B. van Niekerk, D. Slijepcevic, R. Roscam Abbing, S.F.J. van de Graaf (Amsterdam, NL)

17. FXR and TGR5 signaling crosstalk and the gut microbiota in liver metabolism and diseases
J. Chiang, P. Pathak, J.M. Ferrell, S. Boehme (Rootstown, US)

18. Role of a high-fructose diet in early stages of cholelithiasis
R. del Pozo, L. Mardones, M. Villagrán, K. Muñoz, C. Cabezas, L. Troncoso, M. Mellado, M. Muñoz (Concepcion, CL)

19. Role of the bile acid receptor TGR5 (GPBAR1) in cholangiocarcinoma (CCA)
K. Deutschmann, M. Reich, A. Lang, R. Piekorz, C. Gertzen, H. Gohlke, D. Häussinger, V. Keitel (Düsseldorf, DE)

20. Whole genome sequencing of 278 patients with intrahepatic cholestasis of pregnancy: Initial findings

21. Inhibition of hepatic bile acid uptake improves obesity-related metabolic dysfunctions in mice

23. Neutroceutical targeting of the bile acid receptor, farnesoid X receptor, for intestinal disease C.M. Fallon, J. Smyth, N.K. Lajczak, H. Sheridan, S.J. Keely (Dublin, IE)

24. What is the cost of delayed diagnosis of bile acid malabsorption? D. Fernandes, D. Poon, L. White, J. Andreyev (Lincoln, GB)

25. Chronic ursodeoxycholic acid treatment protects against acute ischemia-induced arrhythmias and improves conduction velocity in adult hearts E. Ferraro, C. Mansfield, J. Gorelik, F.S. Ng (London, GB)

26. Cross-species molecular imaging of bile salts and lipids in liver: Identification of molecular markers of structural elements of the mammalian liver B. Flinders, L.R.S. Huizing, M. van Heerden, F. Cuyckens, S.W.M. Olde Damink, R.M.A. Heeren, F.G. Schaap, R.J. Vreeken (Maastricht, NL; Beerse, BE; Aachen, DE)


30. Circulating fibroblast growth factor 21 is increased during cholestasis and correlates with hepatic expression of genes involved in regulating bile acid homeostasis C. Gabbi, C. Anzivino, E. Baldelli, L. Carulli, M. Bertolotti (Modena, IT)

31. Low-dose ursodeoxycholic acid in association with low caloric diet in the long term treatment of non-alcoholic steatohepatitis in obese patients A. Genunche-Dumitrescu, D. Badea, M. Badea, P. Mitrut, C. Deliu, A. Badea (Craiova, RO)
32. Combined budesonide-UDCA therapy versus UDCA monotherapy in the treatment of the primary biliary cholangitis
A. Genunche-Dumitrescu, D. Badea, M. Badea, P. Mitrut, C. Deliu, A. Badea (Craiova, RO)

33. Testosterone reduces circulating PCSK9 but does not influence cholesterol or bile acid synthesis in healthy males
M. Ghosh Laskar, L. Beckman, A. Laskar, N. Gårevik, L. Ekström, M. Rudling, B. Angelin (Stockholm, SE)

34. T cell-mediated cholangitis alters bile acid metabolism

35. Intestinal and liver crosstalk in control of cholesterol homeostasis by FXR

36. A novel fibroblast growth factor 15-dependent and bile acid-independent promotion of liver regeneration in mice
G. Guo, B. Kong (Piscataway, US)

37. Increased risk of adverse pregnancy outcomes in gestational diabetes mellitus complicated by intrahepatic cholestasis of pregnancy

38. The number needed to treat with ursodeoxycholic acid to prevent one liver transplantation or death in patients with primary biliary cholangitis varies between subgroups

39. Differences in contractile and signalling responses to bile acids and their respective conjugates in neonatal cardiomyocytes: role of Gi protein, muscarinic receptors and TGR5

40. Transcriptional regulation of FGF19 in human intestinal cells by nuclear receptor agonists
D. Jahn, D. Dorbath, H.M. Hermanns, A. Geier (Würzburg, DE)

41. Gut bacteria of the family Coriobacteriaceae influence lipid metabolism in mice
42. Mitochondrial oxysterol biosynthetic pathway gives evidence for CYP7B1 as controller of regulatory oxysterols

43. Oncomir microRNA-346 is upregulated in ascending but not sigmoid colon in patients with primary sclerosing cholangitis (PSC) and ulcerative colitis (UC)
A. Kempinska-Podhorodecka, P. Milkiewicz, E. Wunsch, L. Krupa, K. Gutowski, M. Milkiewicz (Szczecin, Warsaw, Rzeszow, PL)

44. Effect of ursodeoxycholic acid on biochemical markers of cholestasis in children with Alagille syndrome
A.I. Khavkin, G.V. Volynets, A.V. Nikitin, T.A. Skvortsova, E.L. Nikonov (Moscow, RU)

45. Treatment with S-adenosyl-L-methionine (SAMe) may affect immune responses in primary biliary cholangitis (PBC) via its antioxidant properties
E. Kilanczyk, M. Milkiewicz, E. Wunsch, J.M. Banales, P. Milkiewicz (Szczecin, Warsaw, PL; San Sebastian, ES)

46. Isolation and characterization of infant BSH active bacterial isolates
C. Killian, P. Cronin, S.L. Long, C.G.M. Gahan, F. Shanahan, S.A. Joyce (Cork, IE)

47. Difference between two mice strains changes their bile acid composition, gut microbiota, and metabolic regulation system

48. Dynamic determinants of portal hypertension are identified by histological collagen proportionate area estimations

49. Investigation of the modulation of the ATPase activity of human multidrug resistance protein 3 (MDR3/ ABCB4) by bile acids
T. Kroll, M. Prescher, S. Smits, L. Schmitt (Düsseldorf, DE)

50. Anti-apoptotic actions of lithocholic acid on colonic epithelial cells: Implications for treatment of inflammatory bowel disease
N.K. Lajczak, A.M. O’Dwyer, S.J. Keely (Dublin, IE)

51. Multiple cholephilic compounds involved in cholestatic itch inhibit autotaxin activity
52. Assessment of drugs that inhibit bile salt export pump (Bsep) in a siRNA
Bsep knockdown rat model
Y. Li, M. Hafey, K. Cheon, R. Evers, H. Duong, D. Lynch, L. LaFrancco-
Scheuch, K. Tanis, A. Podtelezhnikov, A. Tamburino, K. Geddes, D. Holder,
R. Zhang, D. Spellman, K. Pearson, R. Gonzalez, J. Lebron, A. Galijatovic-
Idrizbegovic, W.E. Glaab, F.D. Sistare (West Point, US)

53. Changes in plasma bile acid profiles after partial internal biliary diversion in
three ABCB11-mutated (PFIC2) patients
T. Liu, R.-X. Wang, J. Han, Y.-Y. Yan, Y.-L. Qiu, L.-L. Liu, C.H. Borchers,
V. Ling, J.-S. Wang (Shanghai, CN; Vancouver, Montreal, Victoria, CA)

54. Probiotic potential of new Lactobacillus salivarius isolate with regard to
BSH activity
S.-L. Long, F. Shanahan, C.G.M. Gahan, S.A. Joyce (Cork, IE)

55. Histomorphological assessment of hepatic fibrosis progression with accom-
panying pronounced ductular proliferation in chronic thiacetamide-induced
experimental liver fibrosis/cirrhosis in young rats
J.M. Lotowska, M.E. Sobaniec-Lotowska, B. Szukiel, S.B. Lotowska,
D.M. Lebenschtejn, W. Debeek (Bialystok, PL)

56. Evaluation of serum fibroblast growth factor 19 (FGF19) and total free fecal
bile acids in stool as markers of bile acid malabsorption in patients with
chronic diarrhea: A pilot study
I. Lyutakov, P. Penchev, R. Nakov, B. Asenova, M. Chetirska, R. Vatcheva-
Dobrevska, B. Vladimirov (Sofia, BG)

57. Does the placenta contribute to the enhanced risk of pruritus during maternal
hypercholanemia?
R.I.R. Macias, S. Matilla, M.C. Estiú, M.A. Serrano, E. Herraez, M. Alonso,
R. Al-Abdulla, R.P.J. Oude Elferink, J.J.G. Marin (Salamanca, Madrid, ES;
Buenos Aires, AR; Amsterdam, NL)

58. A novel non-immunosuppressive cyclosporine analog inhibits NTCP and
shows potential for treatment of metabolic diseases in mouse models
F. Mao, Z. Zhou, Y. Liu, Y. Li, H. Ruan, Z. Zhang, W. Li (Beijing, CN)

59. Bile acid 7-dehydroxylation by Clostridium scindens in vitro and in vivo
S. Marion, N. Studer, L. Desharnais, S. Escrig, A. Meibom, S. Hapfelmeier,
R. Bernier-Latmani (Lausanne, Bern, CH)

60. OCA ameliorates dyslipidemia but not insulin resistance in a mouse model
of gestational diabetes mellitus
S. Mcllvride, H.M. Fan, V. Nikolova, E. Bellafante, E. Jansen, L. Adorini,
D. Shapiro, H.-U. Marschall, C. Williamson (London, GB; Bilthoven, NL;
New York, US; Gothenburg, SE)

61. TGR5-dependent hepatoprotection through the regulation of biliary epithelium
permeability
G. Merlen, J. Ursic-Bedoya, N. Kahale, H. Simerabet, I. Doignon, Z. Tanfin,
I. Garcin, N. Péan, J. Gautherot, C. Ullmer, L. Humbert, D. Ranteau, K. Ebnet,
D. Cassio, T. Tordjmann (Orsay, Paris, FR; Basel, CH; Muenster, DE)
62. Deviations in peripheral blood subpopulations are connected with the presence of pruritus in primary biliary cholangitis patients

63. Bile acid traffic across the mammary gland: Implications on lactation during maternal cholestasis

64.* Targeting host and microbial choline metabolism by a semi-synthetic bile acid suppresses TMA/TMAO formation and ameliorates atherosclerosis and NASH in mice
T. Moustafa, T. Madl, D. Kratky, S. Stryeck, T. Eichmann, J. Gumhold, S. Racedo, D. Silbert, T. Hitch, C. Kern, T. Clavel, K. Schoonjans, P. Fickert, M. Trauner (Graz, AT; Aachen, DE; Lausanne, CH; Vienna, AT)

65. Asperuloside, the extraction of Tochu-tea improves metabolic syndrome through the induction of bile acid signaling
A. Nakamura, T. Hirata, T. Ueda, A. Honda, N. Kitamura, Y. Yokoyama, M. Watanabe (Fujisawa, Tokyo, Osaka, Ibaraki, JP)

66.* Enhanced microbial deconjugation of bile acids in pregnancy represses intestinal FXR-mediated regulation of hepatic bile acid synthesis

67. Increased endogenously synthesized oxysterol accumulation represents an initiating step in fatty liver's progression toward inflammation

68. Pharmacological inhibition of the apical sodium-dependent bile acid transporter (ASBT) protects ileal enterocytes from bile acid-induced injury in adult mice
A. Rao, C. Ferrebee, J. Li, S.J. Karpen, P.A. Dawson (Atlanta, US)

69. Upregulation of the membrane-bound bile acid receptor (TGR5) in response to Listeria monocytogenes infection involves Krüppel-like factor 5 (KLF5)
M. Reich, K. Deutschmann, J. Stindt, H.C. Xu, P. Lang, D. Herebian, E. Mayatepek, D. Häussinger, V. Keitel (Düsseldorf, DE)

70. Oxysterol sulfates alleviate injured liver function and decrease mortality in mouse models
S. Ren, J.K. Kim, Y. Ning (Richmond, US)
71. Calnexin depletion by ER-stress during cholestasis inhibits the Na+-tauro-cholate cotransporting polypeptide (NTCP)  
M.J.D. Robin, M.D. Appelman, H.R. Vos, R.M. van Es, J.C. Paton, A.W. Paton,  
B. Burgering, J. Heijmans, S.F.J. van de Graaf (Amsterdam, Utrecht, NL;  
Adelaide, AU)

72. Inhibiting NTCP-mediated hepatic bile salt uptake stimulates biliary lipid excretion, independent of changes in bile salt output and hydrophobicity  
R.L.P. Roscam Abbing, D. Slijepcevic, R. Havinga, J. Kuiper, F. Kuipers,  
A.K. Groen, R.P.J. Oude Elferink, S.F.J. van de Graaf (Amsterdam, Groningen,  
Leiden, NL)

73. Gallbladder bile supersaturated with cholesterol in gallstone patients develops chiefly from bile acid shortage worldwide  
M. Rudling, A. Laskar, S. Straniero (Stockholm, SE)

74. The FXR agonist GS-9674 reduces fibrosis and portal hypertension in a rat model of NASH  
P. Schwabl, G. Budas, E. Hambruch, P. Supper, M. Burnet, J. Liles, T. Sullivan,  
E. Huntzicker, M. Birkel, D. French, D. Tumas, K. Brusilovskaya, P. Königshofer,  
M. Peck-Radosavljevic, W. Watkins, M. Trauner, D. Breckenridge, C. Kremosser,  
T. Reiberger (Foster City, US; Heidelberg, Tübingen, DE; Vienna, Klagenfurt, AT)

75. Δ4-3-oxosteroid-5β-reductase (AKR1D1) deficiency: Responses and long-term outcomes from oral bile acid therapy  
K.D.R. Setchell, M. Zhang, J. Zhao, J. Gong, Y. Lu, J.-S. Wang (Cincinnati,  
US; Shanghai, CN)

76.* Treatment response of murine sclerosing cholangitis to systemic versus intestinal FXR agonists segregates with their effects on hepatic pro-inflammatory cytokine production  
T. Shi, C.S. Lages, R. Kudira, L. Matuschek, M. Mullen, A. Ortiz, K.-J. Lee,  
D. Zook, B. Wagner, A. Miethke (Cincinnati, San Diego, US)

77. Blood-circulating bile acids support hematopoietic recovery after chemotherapy  
V. Sigurdsson, Y. Haga, M. Suzuki, V. Radulovic, H. Takei, C. Okamatsu-Haga,  
M. van der Garde, E. Mansell, S. Koide, M. Gáfvels, H. Nittono,  
A. Ohara, K. Miharada (Lund, Uppsala, SE; Tokyo, Kanagawa, JP)

78. Roux-en-Y gastric bypass induces elevation of plasma bile acids through disturbed intestinal transit and long-term change of synthesis control  
(Eindhoven, Amsterdam, Groningen, NL)

79. The role of the population of hepatic progenitor/oval cells in the process of fibrogenesis in the model of biliary fibrosis induced by bile duct ligation in young Wistar Crl: WI(Han) rats: The transmission electron-microscopic analysis  
M.E. Sobaniec-Lotowska, J.M. Lotowska, P. Sobaniec, D.M. Lebensztejn,  
J. Reszec, W. Debek (Bialystok, PL)
80. The results of ursodeoxycholic acid use in the diagnosis of gallbladder polyps
A. Soylu, S. Cakmak, I. Sevindir, I. Soylu (Istanbul, TR)

81. Interleukin-8 mediates downregulation of TGR5 in biliary epithelial cells, which may contribute to progression of sclerosing cholangitis
L. Spomer, M. Reich, J. Höhne, J.R. Hov, T.H. Karlsen, D. Nierhoff, D. Häussinger, V. Keitel (Düsseldorf, Cologne, DE; Oslo, NO)

82. A novel, cell-based assay for measuring bile salt transport inhibition by BSEP antibodies in sera from antibody-induced BSEP deficiency (AIBD) patients
J. Stindt, C. Dröge, M. Wammers, P. Philippski, C. Wiek, H. Hanenberg, D. Häussinger, V. Keitel (Düsseldorf, DE)

83. Effects of bile acid signaling and microbiota during HCC progression in NASH
S. Sydor, J. Best, P. Manka, I. Messerschmidt, K.N. Faber, H. Moshage, R. Vilchez Vargas, G. Gerken, A. Canbay, L.P. Bechmann (Magdeburg, Essen, DE; Groningen, NL)

84. Bile acid alterations are associated with insulin resistance but not NASH in obese patients
A. Tailleux, V. Legry, S. Francque, J. Haas, A. Verrijken, S. Caron, P. Lefebvre, J.-F. Goossens, M. Kouach, A. Descat, E. Vallez, O. Chávez-Talavera, S. Lestavel, L. Van Gaal, R. Paumelle, B. Staels (Lille, FR; Antwerp, BE)

85. Topical intestinal TGR5 agonists promote glucagon-like peptide-1 secretion and improve glucose tolerance

86. Evidence-based clinical guideline for primary sclerosing cholangitis in Japan 2017

87. A real-time bioluminescent method for assessing bile acid transporter activity

88. Targeting organic solute transporter alpha-beta to attenuate liver damage induced by bile duct ligation
S.M.W. van de Wiel, S.F.J. van de Graaf (Amsterdam, NL)
89. Ursodeoxycholic acid is associated with an improved liver transplant-free survival in all patients with primary biliary cholangitis

90. The postoperative serum course of liver regeneration-associated signaling factors FGF19 and bile salts, in non- and post-cholestatic patients undergoing liver resection

91. Elongation of the fetal PR interval associated with intrahepatic cholestasis of pregnancy is normalised by UDCA therapy

92.* Inactivation of the intestinal apical sodium bile acid transporter profoundly inhibits cholesterol absorption
H.J. Verkade, I. van de Peppel, A. Bertolini, T.H. van Dijk, A.K. Groen, J.W. Jonker (Groningen, NL)

93. Effect of ursodeoxycholic acid on biochemical markers of cholestasis in children with progressive intrahepatic cholestasis of type 1 and type 2
G.V. Volynets, A.I. Khavkin, A.V. Nikitin, T.A. Skvortsova, E.L. Nikonov (Moscow, RU)

94. A physiology-based model of the distribution of individual bile acids within the enterohepatic circulation under normal and pathological conditions in humans
V. Voronova, V. Sokolov, D. Chenikova, A. Al-Khaifi, S. Straniero, C. Kumar, K. Peskov, G. Helmlinger, M. Rudling, B. Angelin (Moscow, RU; Stockholm, Mölndal, SE; Waltham, US)

95. Obeticholic acid compassionate use therapy for severe primary bile acid diarrhea
J.R.F. Walters (London, GB)

96. Expression of mir-21 and mir-150 in patients with primary biliary cholangitis (PBC)
U. Wasik, E. Wunsch, P. Milkiewicz, M. Milkiewicz (Szczecin, Warsaw, PL)

97. Porphyran, a functional ingredient of Japanese „Nori“, improves visceral obesity and non-alcoholic fatty liver disease via alteration of bile acids and intestine interactions in mice and humans
M. Watanabe, Y. Takahina, K. Tanaka, S. Fukuda, K. Tsubota, K. Ishihara (Fujisawa, Tokyo, Tsuruoka, Yokohama, JP)
98. Humanized bile acids lead to increased fibrosis in a toxin-induced mouse model of extrahepatic bile duct injury
   A. Wehrman, A. Kriegermeier, O. Waisbourd-Zinman, R. Wells (Philadelphia, US; Tel-Aviv, IL)

99. Dietary protein quality and quantity changed energy metabolism via liver and intestine interactions signals

100. The mechanistic target of rapamycin complex 1 (mTORC1) regulates bile acid biosynthetic and transporter gene expression via activity of the farnesoid X receptor (FXR)
    A. Zaufel, H. Hackl, S. Racedo, J. Gumhold, D. Silbert-Wagner, A. Krogsdam, J.M. Ramos Pittol, S.W.C. van Mil, P. Fickert, T. Moustafa (Graz, Innsbruck, AT; Utrecht, NL)

101. Renal lesions in HSD3B7 deficiency resolved with primary bile acid replacement therapy
    J. Zhao, L.-J. Fang, K.D.R. Setchell, J.-X. Wang, Y. Gong, Y. Sun, J.-S. Wang (Shanghai, CN; Cincinnati, US)

102.*Taurocholate upregulates lncRNA H19 in cholangiocytes and activates hepatic stellate cells via exosome release under cholestatic conditions
    H. Zhou, R. Liu, X. Li, W.M. Pandak, P.B. Hylemon (Richmond, US)

103. Immunomodulatory mechanisms of the novel therapeutic bile acid 24-nor-ursodeoxycholic acid

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During Symposium 211

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Thursday, July 5, 2018  16.00 – 21.00 h
Friday, July 6, 2018    7.30 – 18.30 h
Saturday, July 7, 2018 8.00 – 16.00 h

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Conflicts of Interest

Members of the scientific committee declare the following potential conflicts of interest:
Ulrich Beuers: Dr. Falk Pharma GmbH, Intercept, Falk Foundation e.V., Gilead, Novartis, Roche, Shire, Zambon; Michael Trauner: Intercept, Albireo, Dr. Falk Pharma GmbH, MSD, Takeda, Gilead, Phenex, Novartis, BMS, Falk Foundation e.V., Roche. Dieter Häussinger and Verena Keitel declare no Conflicts of Interest.
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Symposium 211

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