

HEPATOLOGY RESEARCH GROUP
**INSTITUTE OF TRANSLATIONAL AND STRATIFIED MEDICINE,
PLYMOUTH UNIVERSITY PENINSULA SCHOOLS OF MEDICINE AND
DENTISTRY**

Hepatology Research Group (HRG) structure:

Head

Prof Matthew Cramp, Professor of Hepatology and Consultant Hepatologist

Senior Clinical Academics:

Dr David Sheridan, Associate Professor (Senior Lecturer) of Hepatology and
Honorary Consultant Hepatologist,
Dr Ashwin Dhanda, Consultant Hepatologist and Honorary Associate Professor

Senior Scientists:

Dr Daniel Felmlee, Lecturer,
Dr Doha Hegazy, HRG Manager

Clinical Research Fellows:

Dr Ollie Rugar – PhD student
Dr Huey Tan – PhD student
Dr Kris Bennett - NIHR Academic Clinical Fellow,

PhD Fellows:

Paula Boeira
Justyna Lopatecka

DClinSci fellow:

Kristen Lilly

Lab technician:

Euan Yates

Hepatology Research Group Annual Report 2019

Overview:

2019 was a good year for the Hepatology Research Group (HRG) with 15 publications, many of them in high impact journals and multiple oral and poster presentations at national and international meetings. The group remains focused on 4 main areas of research interest (1. hepatitis C virus infection and protection from infection, 2. non-alcoholic fatty liver disease and metabolic liver diseases, 3. alcohol related liver disease and 4. liver cancer development and its prevention) and summary of the work in each of these areas is included in this report.

2019 was the second year of Matthew Cramp's BASL Presidency with a very successful BASL annual meeting in Glasgow and confirmation of BASL 2020 being held in Plymouth with a strong presence from the American Association for the Study of Liver Disease to coincide with the Mayflower 400 celebrations. Plans to increase the number of trainees in hepatology made progress and the nine BASL special interest groups established in 2018 made good progress in facilitating collaborative work, research, grant applications and clinical developments at a national level in a wide range of liver conditions.

Dr Huey (Queenie) Tan joined the group as our newest Hepatology Clinical Research Fellow and has registered for a 3 year PhD project working with Dr Dhanda. Dr Kris Bennett further developed his PhD plans and is making good progress with his clinical training in gastroenterology and hepatology. Dr Asma Ahmed was awarded her MD for the work she did on immune responses to HCV and their role in determining outcomes during anti-viral therapy.

The clinical trials program of the HRG and the wider clinical team of the South West Liver Unit continued to be a major recruiter to many interventional studies (including clinical trials of new treatments for non-alcoholic fatty liver disease, primary biliary cholangitis, alcoholic hepatitis, and advanced decompensated liver disease) and to additional observational studies and our Inflammatory Liver Disease Biobank.

Hepatitis C Virus infection and Protection from Infection
Leads: Matthew Cramp, Dan Felmlee

The main ongoing focus of the HRG is on the rare genetic polymorphisms associated with high level resistance to HCV infection that were identified in the blood transfusion exposed but uninfected cohort. Dan continues to refine the cell culture model to assess the resistance using the CRISPR /Cas-9 system to knock out the identified genes. We now have established cell lines with knockouts for most of the genetic factors identified, but work in Plymouth has slowed pending the containment level 3 laboratory being completed. We expect to complete some of the laboratory work at the MRC Virology unit in Glasgow until the local facility is up and running. Work is also planned to explore the possibility that genetically determined resistance to HCV infection may also confer protection from viruses using similar mechanisms of cell entry to HCV – these include Dengue and Zika virus both of which pose major public health problems.

Work on the lipidomic profiles of the injection drug user HCV exposed but uninfected cohort work started by Dr Isaac Shawa continues. Detailed analysis of this very large dataset in collaboration with Kings College Hospital (Dr Mark McPhail) has identified a link between the alterations in the lipid profile seen in this group and enhanced innate immune responses. This work was presented at the annual BASL meeting and is consistent with our laboratory work demonstrating significant up-regulation of in-vitro innate responses to viral RNA stimulation in EU cases, compared to infected cases.

Dan's initial MRC grant bid was unsuccessful, but with some very positive feedback so we plan to re-submit soon.

On the clinical front the Peninsula HCV Operational Delivery Network, for which Matthew Cramp is clinical lead, continued good work towards the WHO target of elimination of HCV as a public health threat by 2030. In fact the SW is on target to achieve this by 2025, with once again record numbers of cases across Devon, Cornwall and Somerset treated and cured of their HCV infection in 2019.

Non-alcoholic fatty liver disease and metabolic liver diseases
Lead: David Sheridan, Dan Felmlee

NAFLD studies continue to make progress with meaningful benefits translating to patient care. A new model of care streamlining referral pathways (<https://southwest.devonformularyguidance.nhs.uk/referral-guidance/western-locality/gi-liver/non-alcoholic-fatty-liver-disease>) with the new community clinic at Mount Gould, and closer working with public health at 'OneYouPlymouth' (<https://www.oneyouplymouth.co.uk/eat-well/>) has been a source for ongoing patient and public involvement to define the needs of this patient population to support lifestyle behaviour change interventions. Academic Clinical Fellow, Dr Kris Bennett presented his data at the EASL congress, identifying associations between NAFLD and lifestyle change outcomes with index of social deprivation. Working with Prof Adrian Taylor and Dr Tom Thompson, the team continue to progress future NIHR grant bids, co-designed with patients to address multi-morbidity and health inequalities to meet the needs of people with NAFLD.

Working with key collaborator Dr Charles Affourtit, from the mitochondrial biology group, PhD student Paula Boeira is nearing completion of her 3 year PhD on methylamines and mitochondrial bioenergetics in NASH. She has presented her data at the BASL science meeting, and won the University of Plymouth 'Three-minute Thesis' competition in 2019, and gave an oral presentation at the 10th World Congress on Targeting Mitochondria in Berlin. We are grateful to the Northcott Devon Medical Foundation for supporting her work (TB/MG/N05002). Dr Sheridan once again co-organised the metabolic session at the BASL Basic Science retreat in Derbyshire, and has peer reviewed for MRC and NIHR this year.

Clinical trials remain productive in NASH and Primary Biliary Cholangitis, recruiting into the major global phase 3 trials, and earlier phase 2 studies to time and target. Dr Sheridan was a co-author of the landmark Regenerate trial published in The Lancet, confirming a role for obeticholic acid in reducing fibrosis and NASH activity.

Recruitment to the Inflammatory Liver Diseases Biobank (ILB) continued, with the focus on collection of blood samples and clinical data as well as liver tissue. The expectation is that this resource will continue to grow and support a range of future translational liver disease research projects.

Alcohol related liver disease
Lead: Ashwin Dhanda

2019 was Dr Ashwin Dhanda's first full year as a Consultant Hepatologist at University Hospitals Plymouth NHS Trust and he has been successful in securing funded University time to continue growing his program of research into alcohol-related liver disease.

Ashwin continues to progress the work of the Medical Research Council Precision Medicine consortium on Minimising Mortality from Alcohol Hepatitis (MIMAH; <http://mimah.org>) and is the local principal investigator for the ISIAH clinical trial of an immune targeting treatment. As part of MIMAH, a multicentre cohort study in alcoholic hepatitis (MICAH) is soon to open in 40 centres around the UK to identify biomarkers of disease and prognosis and to investigate mechanisms of the condition. Plymouth will be one of the major hubs and is leading on testing a biomarker of response to steroid treatment known as the BLISS assay. This work will be performed with the assistance of Euan Yates, a newly appointed research technician within the HRG. Ashwin was also awarded a Young Investigator prize by the Association of Physicians of Great Britain and Ireland to conduct a substudy to the MICAH trial to understand patients' experiences of the condition and to identify potential barriers or facilitators to treatment. He is working with experienced qualitative researchers (Dr Lynne Callaghan and Ms Jane Horrell) from the Faculty of Health to conduct this study. This project will fill the research gap in understanding the patient's perspective of illness with an aim to identify new ways of providing services to engage this patient population.

In 2019, the HRG welcomed a clinical PhD student supervised by Ashwin, Dr Huey (Queenie) Tan, who is investigating mechanisms of resistance to steroid treatment in patients with alcoholic hepatitis. She works closely with the clinical team to identify patients, consent them for research and obtain samples for laboratory studies. Ashwin has also participated in the Jiangsu UK20-20 student exchange programme and will be joined by a 6 month placement PhD student from Nanjing University of Chinese Medicine who will work on oxidative stress in alcoholic hepatitis. Ashwin has developed links with the UHP Clinical Immunology department. He is supervising the DCLinSci project of Kristen Lilly, a Clinical Scientist in Immunology. She will be investigating the effect of antioxidant treatment in patients with alcohol-related liver disease. Ashwin is second supervisor to two postgraduate students: Justyna Lopatecka, a PhD student working with Dr Gjorgy Fejer, Lecturer in Immunology, who is developing an in vitro model of lung macrophages; and Dr Andrei Tanase, a clinical MD student working with Mr Somaiah Aroori, Consultant Hepatobiliary Surgeon, who is evaluating the management of common bile duct stones through a prospective national audit.

October saw Ashwin's election as lead for the British Association for the Study of the Liver (BASL) Special Interest Group for alcohol-related liver disease. Over the next 2 years, he will coordinate several national meetings of clinicians and academics to develop clinical audits and trial proposals to tackle important and relevant research

questions in the field of alcohol-related liver disease. He will be chairing his first meeting in April 2020 and has already led a regional audit to evaluate access to liver transplantation in this patient group.

2019 was a good year for publications with several papers from the laboratory work the group has done over the last 2 years and an important meta-analysis of published work confirming a high mortality in the presently poorly named non-severe alcoholic hepatitis category. We hope this will translate into renewed interest in clinical trials and interventions in this important group.

2020 is set to be an exciting year for alcohol-related liver disease research as the MIMAH consortium studies open to recruitment and both the group and projects expand within the HRG.

Liver cancer development and its prevention

Lead: Matthew Cramp, Jemimah Denson, Michael Jarvis

Dr Ollie Rupar continued his work on universal tumour associated antigen (U-TAA) expression in primary liver tumours using a combination of histological and genetic methods. His work on telomerase and survivin sequencing from both tumour and non-tumour tissue is complete with successful extraction and sequencing of DNA fragments obtained from archived tissue samples a technique that could be replicated elsewhere. His immunohistochemistry work is nearly complete and the focus is now on work looking for serum biomarkers of liver tumour development using stored sera held in the biobank. Ollie completes his PhD in 2020 and is hopeful that his findings will help better refine the earlier identification of liver cancers and variant tumours with a poor prognosis.

HRG Management and teaching

Lead: Doha Hegazy

The HRG continue to enjoy working in the Derriford Research Facility which has enhanced collaborations with others and made meetings, seminars and the whole research work experience more varied and rewarding.

Work on the Containment Level 3 laboratory stalled due to lack of funds but is once again underway. The HRG are looking forward to being able to use this facility once all the regulatory approvals are in place.

Inspiring the next generation of researchers remains essential and the HRG continued to run a number of successful Special Study Units to introduce undergraduate medical students to the laboratory and to foster interest in translational research.

After many years of dedicated service Doha retired at the end of September to spend more time with her family and especially her grandchild. She has been much missed.

Current and future plans

The Derriford Research Facility significantly expanded the HRGs laboratory facilities but unfortunately the containment level 3 (CL3) laboratory did not get completed in 2019 as it still lacked vital equipment needed for approved. We expect this key work to be completed in 2020, and have assurances that the university will fund the required equipment to allow the involved process of regulatory approval to be started. Once approved we will at long last be able to undertake the viral challenge work here in Plymouth rather than at our collaborators laboratories in Glasgow.

Collaborations, both within University of Plymouth and outside the university, remain a major part of the groups long term viability strategy. The relocation of many of our internal collaborators to the DRF has proved a major step in the right direction. Our collaborations with Imperial College London (MRC personalised medicine bid in alcoholic hepatitis), the MRC Centre for Virology in Glasgow (HCV exposed uninfected work) and with the Institute of Hepatology, Kings College London (lipidomics in HCV resistance) all progressed well in 2019 and we hope to further strengthen these important links in 2020.

Our involvement in clinical trials continues. The HRG and SWLU are the largest recruiter to trials in liver disease in the southwest and have brought a range of new treatments to patients from across Devon Cornwall and Somerset. After a downturn in activity after the flurry of HCV related clinical trials we expect to see an upturn in 2020 with clinical trials in NAFLD, primary biliary cholangitis, primary sclerosing cholangitis, chronic hepatitis B virus infection, alcoholic hepatitis and decompensated liver disease all in the set up phase in early 2020.

A key marker of the groups success has been increasing success in obtaining grant support, with Dr Dhanda in particular doing well in 2019. Ensuring the financial sustainability of the group at a time of increasing pressure on university and academic funding remains a key priority. The next round of university funding (REF2021) is underway and 2020 will see a lot of work on case of impact studies and other areas that will aim to secure medium term support to the wider group.

The financial support provided by the Mary Kinross Trust for 2019 and for 2020 has again been instrumental in keeping the HRG viable. With their generosity we have

been able to appoint a new post-doctoral scientist to help accelerate the important HCV work and to continue the support to the HRG previously offered by Doha. We are extremely grateful to the trustees for all their support over many years and their ongoing commitment to help us in 2020. Our challenge for 2020 and 2021 will be to continue working towards greater financial stability from external grant support.

We remain indebted to all the patients and their families who have supported us by their involvement in clinical trials and the research work, to the wider clinical team at the SWLU and to all our collaborators both in the UK and abroad.

Research Outputs for 2019:

Publications:

Dhanda AD, Williams EW, Yates E, Lait PJP, Schewitz-Bowers LP, Hegazy D, **Cramp ME**, Collins PL, Lee RWJ. Intermediate monocytes in acute alcoholic hepatitis are functionally activated and induce IL-17 expression in CD4⁺ T cells. *Journal of Immunology* 2019 Dec 15;203(12):3190-3198.

Unacceptable failures: the final report of the Lancet Commission into liver disease in the UK.

Williams R, Aithal G, Alexander GJ, Allison M, Armstrong I, Aspinall R, Baker A, Batterham R, Brown K, Burton R, **Cramp ME**, Day N, Dhawan A, Drummond C, Ferguson J, Foster G, Gilmore I, Greenberg J, Henn C, Jarvis H, Kelly D, Mathews M, McCloud A, MacGilchrist A, McKee M, Moriarty K, Morling J, Newsome P, Rice P, Roberts S, Rutter H, Samyn M, Severi K, Sheron N, Thorburn D, Verne J, Vohra J, Williams J, Yeoman A.

Lancet. 2020 Jan 18;395(10219):226-239. Epub 2019 Nov 29

Applicability, safety, and biological activity of regulatory T cell therapy in liver transplantation.

Sánchez-Fueyo A, Whitehouse G, Grageda N, **Cramp ME**, Lim TY, Romano M, Thirkell S, Lowe K, Fry L, Heward J, Kerr A, Ali J, Fisher C, Lewis G, Hope A, Kodela E, Lyne M, Farzaneh F, Kordasti S, Rebollo-Mesa I, Jose Lozano J, Safinia N, Heaton N, Lechler R, Martínez-Llordella M, Lombardi G.

Am J Transplant. 2019 Nov 12. Epub ahead of print

Sofosbuvir/velpatasvir for 12 weeks in hepatitis C virus-infected patients with end-stage renal disease undergoing dialysis.

Borgia SM, Dearden J, Yoshida EM, Shafran SD, Brown A, Ben-Ari Z, **Cramp ME**, Cooper C, Foxton M, Rodriguez CF, Esteban R, Hyland R, Lu S, Kirby BJ, Meng A,

Markova S, Dvory-Sobol H, Osinusi AO, Bruck R, Ampuero J, Ryder SD, Agarwal K, Fox R, Shaw D, Haider S, Willems B, Lurie Y, Calleja JL, Gane EJ.
J Hepatol. 2019 Oct;71(4):660-665

Forrest EH, Storey N, Sinha R, Atkinson SR, Vergis N, Richardson P, Masson S, Ryder S, Thursz MR, Allison M, Fraser A, Austin A, McCune A, **Dhanda A**, Katerey D, Potts J, Verma S, Parker R, Hayes PC. The neutrophil-to-lymphocyte ratio in alcoholic hepatitis: influence of corticosteroid treatment.
Alimentary Pharmacology and Therapeutics 2019 Aug;50(4):442-453

Bennett K, Enki DG, Thursz M, **Cramp ME**, **Dhanda AD**. Systematic review and meta-analysis: high mortality in patients with non-severe alcoholic hepatitis.
Alimentary Pharmacology and Therapeutics 2019, Aug;50(3):249-257.

Norton BC, Srivastava A, Ramos K, Vine L, Taylor R, Aluvihare V, Heaton N & **Cramp ME** 2019 'Risk-adjusted survival in liver transplant patients assessed and managed by a non-transplanting centre: South West Liver Unit experience' *Frontline Gastroenterology*, Aug 2019 , [DOI](#)

Characterisation of the Serum Metabolic Signature of Cholangiocarcinoma in a United Kingdom Cohort.

Alsaleh M, Leftley Z, Barbera TA, Koomson LK, Zabron A, Crossey MME, Reeves HL, **Cramp M**, Ryder S, Greer S, Prince M, Sithithaworn P, Shariff M, Khuntikeo N, Loilome W, Yongvanit P, Shen YL, Cox IJ, Williams R, Wadsworth CA, Holmes E, Nash K, Taylor-Robinson SD.
J Clin Exp Hepatol. 2020 Jan-Feb;10(1):17-29. Epub 2019 Jun 15

Dhanda AD, **Yates E**, Schewitz-Bowers LP, Lait PJ, Lee RWJ, **Cramp ME**. Ex vivo T cell cytokine expression predicts survival in patients with severe alcoholic hepatitis.
Gut and Liver 2019 Jun 3. doi: 10.5009/gnl19035.

Accuracy of FibroScan Controlled Attenuation Parameter and Liver Stiffness Measurement in Assessing Steatosis and Fibrosis in Patients With Nonalcoholic Fatty Liver Disease.

Eddowes PJ, Sasso M, Allison M, Tsochatzis E, Anstee QM, **Sheridan D**, Guha IN, Cobbold JF, Deeks JJ, Paradis V, Bedossa P, Newsome PN.
Gastroenterology. 2019 May;156(6):1717-1730

Characterization of the urinary metabolic profile of cholangiocarcinoma in a United Kingdom population.

Alsaleh M, Barbera TA, Reeves HL, **Cramp ME**, Ryder S, Gabra H, Nash K, Shen YL, Holmes E, Williams R, Taylor-Robinson SD.
Hepat Med. 2019 May 3;11:47-67.

Multi-Ancestry Genome-Wide Association Study of Spontaneous Clearance of Hepatitis C Virus.

Vergara C, Thio CL, Johnson E, Kral AH, O'Brien TR, Goedert JJ, Mangia A, Piazzolla V, Mehta SH, Kirk GD, Kim AY, Lauer GM, Chung RT, Cox AL, Peters MG, Khakoo SI, Alric L, **Cramp ME**, Donfield SM, Edlin BR, Busch MP, Alexander G, Rosen HR, Murphy EL, Latanich R, Wojcik GL, Taub MA, Valencia A, Thomas DL, Duggal P.

Gastroenterology. 2019 Apr;156(5):1496-1507

Acute myeloid leukaemia: an unusual cause of biliary strictures.

Beck A, Hunter H, Jackson S, **Sheridan D**.

BMJ Case Rep. 2019 Mar 14;12(3). pii: e227821.

A variant in the MICA gene is associated with liver fibrosis progression in chronic hepatitis C through TGF- β 1 dependent mechanisms.

Sharkawy RE, Bayoumi A, Metwally M, Mangia A, Berg T, Romero-Gomez M, Abate ML, Irving WL, **Sheridan D**, Dore GJ, Spengler U, Lampertico P, Bugianesi E, Weltman M, Mollison L, Cheng W, Riordan S, Santoro R, Gallego-Durán R, Fischer J, Nattermann J, D'Ambrosio R, McLeod D, Powell E, Latchoumanin O, Thabet K, Najim MAM, Douglas MW, Liddle C, Qiao L, George J, Eslam M; International Liver Disease Genetics Consortium (ILDGC).

Sci Rep. 2019 Feb 5;9(1):1439.

Accuracy of FibroScan Controlled Attenuation Parameter and Liver Stiffness Measurement in Assessing Steatosis and Fibrosis in Patients With Nonalcoholic Fatty Liver Disease.

Eddowes PJ, Sasso M, Allison M, Tsochatzis E, Anstee QM, **Sheridan D**, Guha IN, Cobbold JF, Deeks JJ, Paradis V, Bedossa P, Newsome PN.

Gastroenterology. 2019 Jan 25; S0016-5085(19)30105-2

Book chapters:

Hepatitis viruses (excluding hepatitis C virus)

Oxford Textbook of Medicine, 6th edition 2019

Matthew E Cramp, Ashwin Dhanda

Conference Presentations:

International Meetings:

European Association for the Study of the Liver meeting

Vienna April 2019:

Cirrhotic cardiomyopathy: An observational study pre-liver transplant

Mohsen Subhani, Katie Ramos, Louisa Vine, **Matthew E Cramp**

Journal of Hepatology 70(1):e684

Validation of the Pre-Treatment Neutrophil-to-Lymphocyte ratio to Predict Response to Corticosteroids in Severe Alcoholic Hepatitis. Forrest EH, **Dhanda A**, Katarey D, Potts J, Verma S, Parker R, Hayes PC.

Positive results from regenerate: a phase 3 international, randomized, placebo-controlled study evaluating obeticholic acid treatment for nash
Z Younossi, V Ratziu, R Loomba, M Rinella, QM Anstee, Z Goodman, P Bedossa, A Geier, S Beckebaum, P Newsome, **David Sheridan**, J Trotter, W Knapple, E Lawitz, K Kowdley, A Montano-Loza, J Boursier, P Mathurin, E Bugianesi, G Mazzella, A Oliveira, H Cortez-Pinto, I Graupera, D Orr, L Lotte Gluud, JF Dufour, D Shapiro, J Campagna, L Zaru, L MacConell, R Shringarpure, S Harrison, A Sanyal,
REGENERATE Study Investigators
Journal of Hepatology 70 (1), e5

Combination of fibroscan and fibrometer (fibrometer vcte) improves identification of patients with advanced fibrosis in patients with naflD.
P Eddowes, M Allison, E Tsochatzis, Q Anstee, **David Sheridan**, IN Guha, J Cobbold, V Paradis, P Bedossa, P Newsome
Journal of Hepatology 70, E766-E767

Effectively reducing screen failure rate in non-alcoholic fatty liver disease clinical trial using the fibroscan-based fast score combining liver stiffness, controlled attenuation parameter and AST.
P Eddowes, M Allison, E Tsochatzis, QM Anstee, **David Sheridan**, IN Guha, J Cobbold, V Paradis, P Bedossa P Newsome
Journal of Hepatology 70 (1), e766

Socioeconomic deprivation is associated with non-response to lifestyle interventions in non-alcoholic fatty liver disease
K Bennett, D Sheridan
Journal of Hepatology 70 (1), e788-e789

Efficacy of GKT831 in patients with primary biliary cholangitis and inadequate response to ursodeoxycholic acid: interim efficacy results of a phase 2 clinical trial
G Dalekos, P Invernizzi, F Nevens, VV Hans, E Zigmond, RJ Andrade, ZB Ari, M Heneghan, J Huang, S Harrison, G Minuk, S Joern, C Moreno, J Vierling, C Vincent, C Bowlus, Y Lurie, G Niro, G Hirschfield, A Post, S Zeuzem, T Welzel, C Ch'ng, C Levy, M Miller, A Albillos, JD Collier, L Corless, D Dieterich, AE Kremer, G Papatheodoridis, D Romeo, M Silveira, D Bernstein, Cohen-Naftaly, A Floreani, B Borg, E Carey, C Hollywood, B Maliakkal, M Marzioni, M Rabinovitz, C Rupp, **David Sheridan**, C Stanca, MG Swain, E Veitsman, P Spyridon Dourakis, P Wiese
Journal of Hepatology 70, E1-E2

Autoantibodies to apolipoprotein a1 (APOA-1): a new prognostic biomarker in HCV infection
M Bassendine, S Pagano, S Bridge, **David Sheridan**, I Shawa, M Cramp, S Taylor-Robinson, D Neely, N Vuilleumier

Journal of Hepatology 70 (1), e727

**American Association for the Study of Liver Disease meeting
Boston November 2019:**

The impact of pruritus on patient-reported outcomes (PROs) in patients with non-alcoholic steatohepatitis (NASH) treated with obeticholic acid (OCA)

ZM Younossi, M Stepanova, F Nader, R Loomba, QM Anstee, V Ratziu, SA Harrison, AJ Sanyal, J George, S Beckebaum, DW Orr, G Mazzella, V Vargas, LL Gluud, R Safadi, JF Trotter, J Behari, **David A Sheridan**, MY Sheikh, G Cawkwell, B Wong, P Bedossa, ZD Goodman, ME Rinella *HEPATOLOGY 70, 39A-40A*

The NOX1/4 inhibitor GKT831 achieves clinically meaningful reductions in liver stiffness, attenuates cholestasis, and improves quality of life in patients with primary biliary cholangitis

JC Huang, P Invernizzi, GN Dalekos, F Nevens, H Van Vlierberghe, E Zigmond, RJ Andrade, Z Ben-Ari, MA Heneghan, SA Harrison, GY Minuk, J Schattenberg, C Moreno, JM Vierling, C Vincent, CL Bowlus, Y Lurie, L Muratori, G Niro, G Hirschfield, AB Post, S Zeuzen, T Welzel, C Ch'Ng, C Levy, MH Miller, JD Collier, L Corless, DT Dieterich, A Kremer, GV Papatheodoridis, DP Romeo, MG Silveira, DE Bernstein, M Naftaly-Cohen, A Floreani, B Borg, EJ Carey, C Hollywood, BJ Maliakkal, M Marzioni, M Rabinovitz, C Rupp, **David A Sheridan**, CM Stanca, MG Swain, E Veitsman, SP Ntourakis, P Wiesel
HEPATOLOGY 70, 777A-779A

Assessment of patient-reported outcomes (PROs) in patients with non-alcoholic steatohepatitis (NASH) treated with obeticholic acid (OCA): results from regenerate

ZM Younossi, M Stepanova, F Nader, R Loomba, QM Anstee, V Ratziu, SA Harrison, AJ Sanyal, JF Trotter, MY Sheikh, AJ Montano-Loza, A Olveria, LM Stinton, **David A Sheridan**, V Vargas, LL Gluud, R Safadi, J Schattenberg, M Khalili, DW Orr, M Peck-Radosavljevic, ME Allison, G Cawkwell, B Wong, P Bedossa, ZD Goodman, ME Rinella
HEPATOLOGY 70, 1366A-1368A

National meetings:

BSG Annual Meeting, Glasgow, June 2019

Oral presentation –

Non-severe alcoholic hepatitis is not a benign condition: systematic review and meta-analysis of mortality data

Bennett K, Enki D, Thursz M, **Cramp ME**, **Dhanda AD**.

Poster presentation -

Does Size Matter? Investigating the Role of Adiposity in Alcoholic Hepatitis Moodley P, **Dhanda AD**.