

2015-16 (April 2015-March 2016)**HEPATOLOGY****Faculty**

Professor and Head	Y.K. Chawla	MD, DM, FAMS, FACG
Professors	R.K. Dhiman	MD, DM, FAMS, FACG FRCP Edin, FRCP London
	Virendra Singh	MD, DM, FASGE
Additional Professor	Ajay Duseja	MD, DM, MNAMS, FACG
Assistant Professor	Sunil Taneja	MD, DM (Join on 18.11.2013)

Prof. Y.K. Chawla delivered a lecture on “Extrahepatic portal vein obstruction & portal biliopathy” at European Association for the Study of the Liver in April 2015 at Vienna, Austria. He was panelist in “Case Discussion-Liver nodules” and delivered lectures on “Non-cirrhotic portal hypertension” and “The role of transient elastography in portal hypertension” at National Scientific Meeting of Malaysian Society-2015 in August 2015 at Johor Bahru, Malaysia. He chaired an Indian Society of Gastroenterology Symposium and delivered a lecture on “Hepatic steatosis as a cofactor for other liver diseases-Fact or fiction” at the Annual Indian Society of Gastroenterology meeting in November 2015 at Indore. He delivered two lectures on “Transplant for intrahepatic cholangiocarcinoma” and “DAAs-Can reverse cirrhosis or delist from transplant” at Asian Pacific Association for the Study of the Liver STC 2015 in December 2015 at New Delhi. He delivered a lecture on “Acute on Chronic Liver Failure” at Asian Perspective in Liver Disease-2016 in January 2016 at Chang Mai, Thailand. He delivered a lecture on “Recent advances in management of portal hypertension” at Annual Conference of the Association of Physicians of India in January 2016 at Hyderabad. He delivered four talks on “Pathology & Treatment of PBC - What's New”, “Hepato Renal Syndrome”, “Cirrhotic vs non-cirrhotic ACLF”, and “Proposed AARC algorithm for listing of liver transplant in ACLF -should additional points be given?” at Asian Pacific Association for the Study of the Liver-2016 in February 2016 at Japan. He chaired session on “Capacity building for healthcare delivery” and delivered lecture on “Therapy for genotype 1 for HCV in standard and special groups” at

Indian National Association for Study of the Liver initiative in Hepatology in March 2016 at Lucknow.

Dr RK Dhiman is the Governor of American College of Gastroenterology (ACG) for India for the 5th year in a row. He is also a member of International Relations committee member of ACG. Dr Dhiman took over the charge of Secretary-General of Indian national Association for the Study of Liver (INASL) for period April 2015 to August 2018. Dr Dhiman is Editor-in-Chief of Journal of Clinical and Experimental Hepatology (JCEH), which is an international peer-reviewed official Journal of the INASL. The Journal has been indexed in "PubMed Central" since its inception in 2011. He was an examiner for DM (Gastroenterology) at SN Medical College, Jodhpur. He was also an external expert for the selection of Assistant Professor at the AIIMS, Jodhpur.

Dr Dhiman continues to be President of the prestigious International Society for Hepatic Encephalopathy and Nitrogen Metabolism (ISHEN) for the years 2014-16. He is organizing 17th ISHEN symposium at The Oberoi, Gurgaon, Delhi NCR from 9-10 March 2017. Dr Dhiman was invited to the joint EASL/ISHEN Symposium in the capacity of President, ISHEN held at the Annual International Meeting of EASL (European Association for the Study of Liver) held in Vienna from 22 to 26 April 2015. He chaired a session on "HE in the Out-patient Cirrhotic Patient" and delivered a talk on "What is a good clinical measure of outcome in a cirrhotic patient with minimal HE?"

Dr Dhiman bestowed with Fellow, American Association for the Study of Liver Diseases (FAASLD). He attended 66th Annual Meeting of AASLD from November 13 to November 17, 2015 at the Moscone West Convention Center in San Francisco, California, USA and presented his research work entitled "Characterization of Cerebral Edema in Acute on Chronic Liver Failure" as an Oral Presentation.

Dr Dhiman was invited as a Guest Faculty at the Asia Pacific Association for the Study of Liver (APASL) 2015 held in New Delhi from 18 to 20 December 2015; he delivered a talk on "Refractory Hepatic Encephalopathy".

Dr Dhiman has been working for 'Organ Donation' since 2012. He was working for the option of organ donation on the driving license and finally in 2015, Chandigarh Administration has accepted the concept of 'Pledging of Organ Donation on Driving License' in Chandigarh in August 2015. Thus Chandigarh becomes second state/union territory in India that gives option of organ donation on the driving license

He was an invited faculty to INASL held in New Delhi from July 31 to August 2, 2015; He gave Madangopalan Oration on “Portal CavernomaCholangiopathy”, delivered talks on “Epidemiology of Liver diseases in South Asia”, HEV-ALF- Is it different than the ALF in the West and Influence of Gut Microbiome in Hepatic Encephalopathy and moderated Special Interest Group (SIG) meeting on “Hepatic Encephalopathy”. Dr Dhiman was a guest faculty to an International Symposium: Hepatology Advances and Liver transplantation held at KIMS Hospitals in Hyderabad from 6 - 7 February 2016; he delivered a talk on “Management of difficult and refractory hepatic encephalopathy”.

Dr Dhiman was invited faculty at the “Gastrocon 2015” held in Kolkata from October 31, 2015 to November 1, 2015, he delivered a talk on ‘Alcoholic hepatitis: from pill to liver transplant’. He delivered a talk on “Liver function tests: Clinical interpretation” at the 42nd National conference of the Association of Clinical Biochemist of India held in Chandigarh. He was an invited faculty at “Liver Clinics 2015” organised by Madras Medical College, Chennai, on 27-28 June 2015; he delivered talks on “Recent concepts in spontaneous bacterial peritonitis and on management of pregnancy in a patient with liver cirrhosis”. He delivered a talk on "Current status of treatment of Hepatitis C in India" at the Physician Forum Amritsar, on 26th December 2015. Dr Dhiman was an invited faculty at “The CLBS Symposium” organised by Indraprastha Apollo Hospital, New Delhi, on 25 September 2015; he delivered a talk on “When not to transplant in ALF?” Dr Dhiman was an invited faculty at “Recent Advances in Gastroenterology and endoscopy” Held in Goa on 20 September 2015; he delivered a talk on “We are what our bugs make us; The human gut microbiome and liver disease”.

Dr Dhiman was invited as faculty for the “3rd International Liver Symposium 2016: organized by Medanta Liver Institute, Medanta - The Medicity, Gurgaon on April 1 - 3, 2016 in Gurgaon; he delivered a talk on “The decompensated cirrhotic - best practices in management of HE”.

Dr Dhiman was invited as faculty to the Indian School of Hepatology “Management of ascites in ACLF” organized by the INASL Consortium for ACLF Research and Education (ICARE), “Control of Hepatitis C in India” organized by the INASL Coalition for Prevention and Control of Hepatitis C in India (ICPCCI) and the second ‘INASL School of Hepatology Clinics,’ organized at SGPGIMS Lucknow from 4th-6th of March 2016; he delivered talks on ‘Dynamic prognostication for survival in ACLF: suggested approaches’ and ‘Control of Hepatitis C: the Punjab Government initiative’. Dr Dhiman moderated a Morning Round Table Discussion with Julia Wendon, King’s College London on ‘Acute Liver Failure’ at the “Second Transplant Hepatology Course 2015” on 22nd and 23rd August, 2015 at Medanta - The Medicity, Gurgaon

Dr Virendra Singh attended AASLD Conference held at San Francisco(USA) from November 13-November 17, 2015. He also attended APASL Conference held at

Tokyo (Japan) from February 20-24, 2016. Dr V Singh presented paper entitled "Midodrine and Tolvaptan in Patients with Cirrhosis and Refractory or Recurrent Ascites : A Randomized Pilot Study" which was selected as a Presidential Poster of Distinction at The Liver Meeting®2015, AASLD's 66th Annual Meeting, November 13 - November 17, 2015 in San Francisco, CA. He was a guest speaker at APASL Conference held at Tokyo (Japan) from February 20-24, 2016 and spoke on "Growth Factors in the Management of Acute- on- Chronic Liver Failure". He underwent training of ECHO (Extension for Community Healthcare Outcomes) at the University of New Mexico Health Sciences Center (UNMHSC), USA from 13th-16th January, 2016. He also chaired CME on HCV held under the aegis of Society for the Study of Liver Diseases held at Chandigarh in May 2015. He delivered guest lecture on "Management of Cirrhotic Ascites" at Conference held at SKIMS, SRINAGAR on 13th June, 2015. He participated as guest faculty at the symposium on "Management of HCV hepatitis" held at Hyderabad by Indian Society of Gastroenterology, Telangana Chapter on 21st June, 2015. He organized International Conference on HCV Eradication and ECHO in March, 2016 at PGI, Chandigarh. He chaired a session at live endoscopy workshop at Endoscopy Premier League held at Gurgaon from 1st-2nd Oct. 2015. He spoke on 'Regenerative Therapy for ACLF' at the Mid-term ISGCON organised by Indraprastha Apollo Hospital, New Delhi from 3-5th April, 2015. He was a speaker at the 'Clinical School of Hepatology' on 'Management of ascites in HCC' organised by Institute of Liver and Biliary Sciences (ILBS), New Delhi from 25-27th April, 2015. He was an invited speaker on 'Diuretics and LVP in ascites' at the annual conference of the Indian National Association for study of the Liver (INASL), held at New Delhi from 31st July to 2nd August, 2015. He spoke on 'Steroids in alcoholic hepatitis is a boon' at the conference 'Decision making in Hepatobiliary diseases' organised by Sir Ganga Ram Hospital New Delhi on 5-6th September, 2015. He spoke on "Management of refractory ascites" at APIGCON Ahmedabad which was held between 27th-29th Nov. 2015. He was a speaker on debate 'SBP prophylaxes at the Asian Pacific Association for the Study of the Liver (APASL) single theme conference on HCV organised by ILBS, New Delhi on 18-20th December 2015.

Dr Ajay Duseja participated in the Annual Conference of the American College of Gastroenterology held at Honolulu, Hawaii, USA from 16th to 21st October, 2015 and was awarded the Presidential Poster award for his paper 'Small Intestine Bacterial Overgrowth and Toll like Receptor Signalling in patients with Nonalcoholic Fatty Liver Disease'. He was a speaker on 'Drugs in the pipeline for HCV treatment' at INASL School of Hepatology organised at SGPGI Lucknow on 2nd April, 2015. He spoke on 'Lean NASH – Is it different' at the Mid-term ISGCON organised by Indraprastha Apollo Hospital, New Delhi on 4th April, 2015. He was a speaker on 'NAFLD and HCC' at the 'Clinical School of Hepatology' on 'Primary Liver Malignancies' organised by Institute of Liver and Biliary Sciences (ILBS), New

Delhi from 25-27th April, 2015. He spoke on 'Recent advances in the treatment of Hepatocellular carcinoma' in a CME on Advancements in GI Cancer Management organised by the Department of Radiotherapy and Oncology, GMCH, Chandigarh on 9th May, 2015. He was a speaker on 'Definition of ACLF' at the brainstorming session of 'Indian consortium for ACLF research in the East' on 13th and 14th June, 2015 at Gopalpur (Odisha). He was a speaker on 'Stepwise approach in the management of NAFLD' 'at the symposium on 'Fatty liver and Fibrosis' organized by Apollo Hospital Chennai on 5th July, 2015. He was an invited speaker on ' ACLF- The Indian Scenario', "Link between NAFLD and HCC" and 'HBsAg quantification – Additional biomarker for HBV management' at the annual conference of the Indian National Association for study of the Liver (INASL), held at New Delhi from 31st July to 2nd August, 2015. He was also an invited speaker on 'Post Liver Transplant Metabolic Syndrome' at the second Transplant Hepatology course at Medanta, Medicity, Gurgaon on 22-23rd August, 2015. He spoke on 'NAFLD should be treated by a Gastroenterologist' at the conference 'Decision making in Hepatobiliary diseases' organised by Sir Ganga Ram Hospital New Delhi on 5- 6th September, 2015. He was a moderator for 'Management of HCV' at 'Gastroenterology – 2015' organised by BLK-Centre for Digestive & Liver Diseases, New Delhi on 19th September, 2015. He was a speaker on 'Management of CHC' at the annual conference of the Association of Physicians of India (HP Chapter) held at Chail (HP) on 3rd October, 2015. He was a speaker on 'Hepatitis C in the Elderly' at the Annual conference of the Indian academy of Geriatrics, organized at GMCH, Sec 32, Chandigarh on 31st October, 2015. He was an invited faculty at the Annual conference of Gastroenterology held at Indore in November 2015 and gave two talks on 'Work up in NAFLD – How far to go?' and 'Definition of ACLF- Work in progress'. He was a speaker on 'Antivirals in HCV related HCC' and chaired sessions on 'Molecular diagnosis of HCV' and 'DAAs access through ECHO' at the Asian Pacific Association for the Study of the Liver (APASL) single theme conference on HCV organised by ILBS, New Delhi on 18-20th December 2015. He was a speaker on 'Management of HCV in CKD and post renal transplantation' at the INASL Consortium for ACLF Research and Education (ICARE) meeting at SGPGI Lucknow from 4th March to 6th March 2016.

Dr Sunil Taneja participated in the in the Mid-term ISGCON organised by Indraprastha Apollo Hospital, New Delhi on 4th April, 2015 and was a part of Panel discussion on Strategies to eradicate CCC-DNA." He was a speaker on 'Prevention of HCC' at the 'Clinical School of Hepatology' on 'Primary Liver Malignancies' organised by Institute of Liver and Biliary Sciences (ILBS), New Delhi from 25-27th April, 2015. He participated in the Panel Discussion on

management of jaundice in pregnancy and spoke for the motion in the Debate: DM Hepatology will improve care and research in India ' at the annual conference of the Indian National Association for study of the Liver (INASL), held at New Delhi from 31st July to 2nd August, 2015. He chaired a session on Long term complications of Liver transplantation at the second Transplant Hepatology course at Medanta, Medicity, Gurgaon on 22-23rd August, 2015. He was an invited speaker on 'Is there a safe limit of drinking? At the ALDACON from 12-13 September, 2015 at New Delhi. He was awarded a travel award for the an oral paper presentation on 'Can Transient Elastography replace liver biopsy for prediction of treatment response with Pegylated Interferon and Ribavarin in Chronic Hepatitis C? - An experience from a tertiary care hospital' at Gastro 2015 at Brisbane, Australia from 26th September to 3rd October 2015. He was a speaker on 'Clinical, laboratory and imaging diagnosis of NAFLD' at the NAMS meeting at Patna from 16th -18 October 2015.

SERVICE

An outpatient liver clinic is conducted every Monday and Friday. A total No. of 30460 old and 6904 new patients were seen in liver clinic during 2015-2016. During the year, the investigations performed included:

Name of Test/Procedure	2015-16	2014-15	2013-14
UGI Endoscopies	3117	2685	2725
Lower GI Endoscopies	101	110	95
ERCs	430	363	335
Ultrasound	1424	1903	1985
Endoscopic Ultrasound (EUS)	171	73	18
Fibroscan	5810	5621	3679
Anti HCV	5035	4834	4126
HBsAg	5342	5151	4650
HBeAg/Anti HBe	3895	3257	2500
Anti HEV (IgM)	1096	1016	780
Anti HBc (IgM)	465	439	350
Anti HBc (total)	2720	1154	515
Anti HBs	520	516	200
Anti HAV (IgM)	1127	1011	760

These services were rendered to outpatients, patients attending special clinics, emergency and indoor patients.

TRAINING

Nine residents were pursuing DM (Hepatology) and four PhD fellows were pursuing PhD training in the department during the year.

MD residents from the department of Internal Medicine rotated through the department for training imparted through regular sessions of clinical case discussions, topic discussions, hepato-radiology rounds, seminars, liver biopsy rounds and journal clubs. They were also trained to perform bedside procedures like liver biopsy, abdominal paracentesis, etc. DM residents from the department of Gastroenterology also rotated through the department for training imparted through regular sessions of bedside clinical case discussions, liver transplant forums, hepato-radiology rounds, seminars, liver biopsy rounds, journal clubs and through specialised procedures like liver transplantation, Fibroscan, TJLBs, TIPS/DIPS, TACE, and RFA etc done for the patients of the department.

RESEARCH COMPLETED

1. Burden of cirrhosis and minimal and overt hepatic encephalopathy on patients and caregivers.

Hepatic encephalopathy causing significant socioeconomic and emotional impact over the caregiver is not clearly defined. This study was carried out to assess the overall emotional and socioeconomic burden of minimal and overt HE over liver cirrhosis patients and their caregivers. This cross-sectional study demonstrated the presence of higher caregiver burden in cirrhotic patients with past history of HE and those who had minimal HE at the time of study. This is the first study to demonstrate the burden over the caregiver of patients with minimal HE.

2. Comparative effectiveness of different pharmacological interventions for the treatment of minimal hepatic encephalopathy: A Systematic review with network meta-analysis

Minimal hepatic encephalopathy (HE) is associated with impaired quality of life and increased progression to overt HE. We assessed the comparative effectiveness of pharmacological interventions for the reversal of minimal HE and for prevention of development of overt HE through network meta-analysis combining direct and indirect treatment comparisons of randomized clinical trials (RCTs). While rifaximin alone was the most effective intervention for reversal of minimal HE, lactulose (moderate quality) is effective both in reversal of minimal HE and in reducing the risk of development of overt HE.

3. Predictors of outcome (mortality) in patients with acute on chronic liver failure (ACLF).

We developed and validated a model for early prediction of mortality (MEPM) in acute decompensation and to compare it with various prognostic scores. On multivariate analysis, bilirubin, INR, creatinine, HE and SIRS were independent predictors of mortality and were included in MEPM score. MEPM ≥ 13 had 93% specificity for 90-day mortality and MEPM ≥ 10 had 87% sensitivity for survival. The MEPM score was significantly better than other prognostic scores in prediction of 90-day mortality. Due to very high specificity for mortality, MEPM may be useful in early selection of patients for liver transplantation.

4. Prevalence of Infections in Acute Decompensation of cirrhosis: A Tertiary care centre

We evaluated incidence of bacterial infections in acute decompensation of cirrhosis, pathogens involved and their impact on prognosis. Infections are most common cause of acute decompensation. SBP is most common infection and *E coli* is most common causative agent at admission.

5. Impact of hepatic- and extrahepatic-insults on the outcome of acute-on-chronic liver failure

We studied the differences in outcome and predictors of mortality in ACLF precipitated by hepatic- or extrahepatic-insults. There is no difference in mortality among hepatic- and extrahepatic-ACLF groups at 28- and 90-days. iMELD and CLIF-SOFA have highest AUROC to predict 28-day mortality in hepatic- and extrahepatic-ACLF groups respectively.

6. Small Intestine Bacterial Overgrowth and Toll like Receptor signalling in patients with Nonalcoholic Fatty Liver Disease (NAFLD)

Duodenal fluid was taken endoscopically in 32 prospective patients with NAFLD for evaluation of small intestinal bacterial overgrowth (SIBO). Hepatic mRNA expression of TLR4, CD14, TLR2, NF- κ B, MD2 and protein expression of TLR4 and TLR2 was studied in 64 patients [NAFLD=32, chronic viral hepatitis (CVH=32)] by RT-PCR and immunohistochemistry respectively. Serum levels of TNF- α , adiponectin, insulin and endotoxins were also evaluated. SIBO was present in 12 (37.5%) out of 32 patients with NAFLD with *Escherichia coli* as the predominant bacterium. In comparison to those without SIBO, patients with SIBO had significantly higher endotoxin levels, higher CD14 mRNA, NF κ B mRNA and TLR4 protein expression. Patients with NASH had significantly higher endotoxin levels and higher intensity of TLR4 protein expression in comparison to patients without NASH. Serum levels of TNF- α ,

endotoxins and insulin were significantly higher and of adiponectin lower in NAFLD in comparison CVH and healthy volunteers. .

7. Obstructive sleep apnoea is an important predictor of hepatic fibrosis in patients with nonalcoholic fatty liver disease (NAFLD)

One hundred patients with NAFLD assessed on ultrasound and Fibroscan and 23 polysomnography proven patients with obstructive sleep apnoea (OSA) were included prospectively. Only 3 (3%) out of 100 patients with NAFLD had symptomatic (OSA) proven on polysomnography and 21 (91.3%) patients with OSA had NAFLD. Body mass index (OR 1.21) and male gender (OR 4.79) were found as independent predictors of OSA in NAFLD. Apnea-hypopnea index (OR 1.084), a marker of severity of OSA, was the only significant independent predictor of significant fibrosis in patients with NAFLD.

Research in progress

ICMR

1. Apolipoprotein C3 (APO C3) and Patatin like Phospholipase Domain Containing Protein 3 (PNPLA3) Gene polymorphism and expression in patients with Nonalcoholic fatty liver disease (NAFLD).

Other Extramural projects

1. Pentoxifylline With versus Without VSL#3 in Severe Alcoholic Hepatitis: An Investigator Initiated Double-Blind, Randomized, Placebo-Controlled Trial. - Next Gen Pharma India Pvt. Ltd.,
2. GS-US-334-0108: "A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Tenofovir Alafenamide (TAF) 25 mg QD versus Tenofovir Disoproxil Fumarate (TDF) 300 mg QD for the Treatment of HBeAg Negative, Chronic Hepatitis B." - **Gilead/Klinera**
3. GS-US-334-0110: "A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Tenofovir Alafenamide (TAF) 25 mg QD versus Tenofovir Disoproxil Fumarate (TDF) 300 mg QD for the Treatment of HBeAg Positive, Chronic Hepatitis B." - **Gilead/Klinera**
4. A Prospective, multi-centre, double – blind, randomized trial of Saroglitazar 4mg vs Placebo in patients with Nonalcoholic steatohepatitis - **Cadila Healthcare Limited, Zydus Cadila**

5. Non-invasive assessment of disease severity by glycoproteomics in patients with nonalcoholic fatty liver disease (NAFLD) – **Department of Science and Technology (DST), Chandigarh**
6. Diabetes – Liver disease Embrace – Comprehensive action for metabolic health and wellbeing – integration of a diabetes intervention with a liver health program - **Liver Foundation, West Bengal**
7. A Case – Control study to investigate risk factors for Liver Cancer – **Tata Memorial Hospital, Mumbai**
8. A cross-sectional, clinico-epidemiological, multicenter study to determine the prevalence of nonalcoholic Fatty Liver disease and Thyroid dysfunction in patients with metabolic syndrome, visiting Endocrinology and Hepatology outpatient departments of tertiary health care centres in India - **Abbott India Limited**

Departmental

1. To study the prevalence of erectile dysfunction in cirrhotic patients and their response to tadalafil, a phosphodiesterase-5 inhibitor.
2. Circulating neutrophil dysfunction in acf patients
3. Comparison of rifaximin and norfloxacin in preventing spontaneous bacterial peritonitis in cirrhotic patients
4. Cultural differences in the acceptability of lactulose therapy for prevention of the first overt hepatic encephalopathy episode
5. Dynamic assessment of prognostic scores in predicting short term outcome of patients with acute on chronic liver failure.
7. G-CSF in alcoholic hepatitis.
8. G-CSF in cirrhosis.
9. Midodrine and tolvaptan in refractory/recurrent ascites.
10. Beta blockers in Cirrhotic ascites
11. Impaired renal functions in patients with Nonalcoholic Fatty Liver Disease
12. Assessment of quality of life in patients with nonalcoholic fatty liver disease before and after treatment.
13. Immunological profile in patients with acute-on-chronic liver failure (ACLF) and decompensated cirrhosis of liver
14. Role of Procalcitonin in early detection of infection in Acute on Chronic liver failure patients admitted in Liver Intensive Care Unit- A pilot study
15. Cardio-Pulmonary dysfunction in cirrhosis and short term outcome.
16. The effect of hemodialysis on liver stiffness measurement by Transient : A single centre study

Indexed Publications

1. Rathi S, Dhiman RK. Hepatobiliary Quiz Answers-17 (2016). J ClinExpHepatol. 2016;6:73-6.

2. Taneja S, Dhiman RK. Can Testing the Impact of Minimal Hepatic Encephalopathy on Driving Skills be Prolific to Translate Research to Real Life Clinical Medicine? *J ClinExpHepatol*. 2016;6:1-2.
3. Ramanathan S, Khandelwal N, Kalra N, Bhatia A, Dhiman RK, Duseja AK, Chawla YK. Correlation of HVPG level with ctp score, MELD Score, ascites, size of varices, and etiology in cirrhotic patients. *Saudi J Gastroenterol*. 2016;22:109-15.
4. Shalimar, Saraswat V, Singh S, Duseja A, Shukla A, Eapen CE, Kumar D, Pandey G, Venkataraman J, Narayanswami K, Puri P, Dhiman RK, Thareja S, Nijhawan S, Bhatia S, Zachariah U, Sonika U, Thomas V, Acharya SK. Acute on chronic liver failure in India: the INASL Consortium experience. *J GastroenterolHepatol*. 2016 Mar 16. doi: 10.1111/jgh.13340. [Epub ahead of print]
5. Rathi S, Dhiman RK. Hepatobiliary Quiz (Answers)-16 (2015). *J ClinExpHepatol*. 2015;5:357-60.
6. Rathi S, Dhiman RK. Hepatobiliary Quiz (Answers)-15 (2015). *J ClinExpHepatol*. 2015;5:269-71.
7. Puri P, Anand AC, Saraswat VA, Acharya SK, Dhiman RK, Sarin SK, Singh SP, Chawla YK, Aggarwal R, Amarapurkar D, Arora A, Dixit VK, Sood A, Shah S, Duseja A, Kapoor D, Shalimar, Madan K, Pande G, Nagral A, Kar P, Koshy A, Puri AS, Eapen CE, Thareja S. Indian National Association for Study of the Liver (INASL) Guidance for Antiviral Therapy Against HCV Infection in 2015. *J ClinExpHepatol*. 2015;5:221-38.
8. Rai R, Ahuja CK, Agrawal S, Kalra N, Duseja A, Khandelwal N, Chawla Y, Dhiman RK. Reversal of Low-Grade Cerebral Edema After Lactulose/Rifaximin Therapy in Patients with Cirrhosis and Minimal Hepatic Encephalopathy. *ClinTranslGastroenterol*. 2015 Sep 17;6:e111. doi: 10.1038/ctg.2015.38.
9. Ramanathan S, Khandelwal N, Kalra N, Bhatia A, Dhiman RK, Duseja AK, Chawla YK. Correlation of HVPG Level with CTP Score, MELD Score, Ascites, Size of Varices, and Etiology in Cirrhotic Patients. *Saudi J Gastroenterol*. 2015 Sep 8. doi: 10.4103/1319-3767.164185.
10. Kapil S, Duseja A, Sharma BK, Singla B, Chakraborti A, Das A, Ray P, Dhiman RK, Chawla Y. Small intestinal bacterial overgrowth and toll-like receptor signaling in patients with non-alcoholic fatty liver disease. *J GastroenterolHepatol*. 2016 Jan;31(1):213-21.
11. Rathi S, Dhiman RK. Hepatobiliary Quiz (Answers)-14 (2015). *J ClinExpHepatol*. 2015;5:175-8.
12. Singla B, Bhattacharyya R, Chakraborti A, Sharma BK, Kapil S, Chawla YK, Arora SK, Das A, Dhiman RK, Duseja A. Response to potent anti-HBV

- agents in chronic hepatitis B and combined effect of HBV reverse transcriptase mutations. *Gene*. 2015 Aug 1;567(1):22-30.
13. Agrawal S, Duseja A, Aggarwal A, Das A, Mehta M, Dhiman RK, Chawla Y. Obstructive sleep apnea is an important predictor of hepatic fibrosis in patients with nonalcoholic fatty liver disease in a tertiary care center. *Hepatol Int*. 2015;9(2):283-288.
 14. Singh R, **Singh V**. Endoscopic management of hilar biliary strictures. *World Journal of Gastrointest Endosc* 2015;7:806-13.
 15. Sharma N, Kaur H, Kalra N, Bhalla A, Kumar S, Singh V. **Complications of Catheter Drainage for Amoebic Liver Abscess.** *J Clin Exp Hepatol* 2015;5 (3): 256-8.
 16. **Duseja A**, Singh SP, Saraswat VA, Acharya SK, Chawla YK, Chowdhury S, et al. Non-alcoholic Fatty Liver Disease and Metabolic Syndrome-Position Paper of the Indian National Association for the Study of the Liver, Endocrine Society of India, Indian College of Cardiology and Indian Society of Gastroenterology. *J Clin Exp Hepatol*. 2015; 5:51-68.
 17. Agrawal S, **Duseja A**. Nonalcoholic Fatty Liver Disease--The Clinician's Perspective. *Trop Gastroenterol*. 2014 Oct-Dec; 35(4):212-21.
 18. Kapil S, **Duseja A**, Sharma BK, Singla B, Chakraborti A, Das A, Ray P, Dhiman RK, Chawla Y. Small intestinal bacterial overgrowth and toll-like receptor signaling in patients with non-alcoholic fatty liver disease. *J Gastroenterol Hepatol*. 2016 Jan;31(1):213-21.
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 20. Shalimar, Saraswat V, Singh S, **Duseja A**, Shukla A, Eapen CE, et al. Acute on chronic liver failure in India: the INASL Consortium experience. *J Gastroenterol Hepatol*. 2016 Mar 16. [Epub ahead of print]
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 22. Bose PP, Mandal G, Kumar D, **Duseja A**, Chatterjee BP. Visual detection of serum asialohaptoglobin by plasmonic sandwich ELLSA--a new platform for cirrhosis diagnosis. *Analyst*. 2016 Jan 7; 141(1):76-84.
 23. Rai R, Ahuja CK, Agrawal S, Kalra N, **Duseja A**, Khandelwal N, Chawla Y, Dhiman RK. Reversal of Low-Grade Cerebral Edema After Lactulose/Rifaximin Therapy in Patients with Cirrhosis and Minimal Hepatic Encephalopathy. *Clin Transl Gastroenterol*. 2015 Sep 17; 6:e111.
 24. Singla B, Bhattacharyya R, Chakraborti A, Sharma BK, Kapil S, Chawla YK, Arora SK, Das A, Dhiman RK, **Duseja A**. Response to potent anti-HBV

- agents in chronic hepatitis B and combined effect of HBV reverse transcriptase mutations. *Gene*. 2015 Aug 1; 567(1):22-30.
25. Prabhakar N, Vyas S, **Taneja S**, Khandelwal N. Intrahepatic aneurysmal portohepatic venous shunt: what should be done? *Ann Hepatol*. 2015;14(1):118-20.
 26. **Taneja S**, Sakpal M, Ranjan R, **Duseja A**, Dhiman PK, Chawla YK. Hepatology: Hepato splenic sarcoidosis presenting as cholestatic jaundice and severe constitutional symptoms mimicking malignancy. *J GastroenterolHepatol*. 2015 Jun;30(6):968.
 27. **Taneja S**, Dhiman R K. Can Testing the Impact of Minimal Hepatic Encephalopathy on Driving Skills be Prolific to Translate Research to Real Life Clinical Medicine? *JClinExpHepatol*. 2016;(1):1-2

Chapters in Books

1. Agrawal S, **Duseja A**. Non-alcoholic Fatty Liver Disease (NAFLD) - Epidemiology and Risk Factors' - Macmillan publishers [India]Group of Nature publications, 2015
2. Gupta T, **Duseja A**. How should I manage non-alcoholic fatty liver disease in 2016? – Progress in Gastroenterology and Hepatology, Elsevier, 2016

PART-1

(AWARDS HONOURS)

1. Dr Dhiman has been elected as President for the years 2014-2016 of the prestigious International Society for Hepatic Encephalopathy and Nitrogen Metabolism (ISHEN).
2. Dr Dhiman has been elected as secretary-General of INASL for a term 2015-2018.
3. Dr Dhiman is Editor-in-Chief of Journal of Clinical and Experimental Hepatology (JCEH), which is an international peer reviewed official Journal of Indian National Association for the Study of Liver (INASL).
4. Dr Dhiman is a governor for American College of Gastroenterology (ACG)
5. He has been bestowed with Fellow of Royal College of Physician (FRCP) from both Edinburgh and London
6. Dr V Singh resented paper entitled "Midodrine and Tolvaptan in Patients with Cirrhosis and Refractory or Recurrent Ascites : A Randomized Pilot Study" which was selected as a Presidential Poster of Distinction at The Liver Meeting®2015, AASLD's 66th Annual Meeting, at San Francisco, CA in November 2015.
7. Dr Ajay Duseja was awarded the Presidential Poster award for his paper 'Small Intestine Bacterial Overgrowth and Toll like Receptor Signalling in patients with Nonalcoholic Fatty Liver Disease'. at the

Annual Conference of the American College of Gastroenterology held at Honolulu, Hawaii, USA in October, 2015

**PART-II
(DEPARTMENTAL HIGHLIGHTS)**

Dr Ajay Duseja was unanimously elected as the Treasurer of the Indian National Association for study of the Liver (INASL) for the year 2015-2018.

**PART – III
(RESEARCH HIGHLIGHTS)**

There is presence of higher caregiver burden in cirrhotic patients with past history of HE and those who had minimal HE at the time of study. This is the first study to demonstrate the burden over the caregiver of patients with minimal HE.

While rifaximin alone was the most effective intervention for reversal of minimal HE, lactulose (moderate quality) is effective both in reversal of minimal HE and in reducing the risk of development of overt HE.

Model for early prediction of mortality (MEPM) is was significantly better than other prognostic scores in prediction of 90-day mortality in ACLF patients. Due to very high specificity for mortality, MEPM may be useful in early selection of patients for liver transplantation.

Infections are most common cause of acute decompensation. SBP is most common infection and *E coli* is most common causative agent at admission.

There is no difference in outcome and predictors of mortality in ACLF precipitated by hepatic- or extrahepatic-insults. in mortality among hepatic- and extrahepatic-ACLF groups at 28- and 90-days. iMELD and CLIF-SOFA have highest AUROC to predict 28-day mortality in hepatic- and extrahepatic-ACLF groups respectively

Small intestinal bacterial overgrowth (SIBO), endotoxemia and toll like receptor signalling are involved in the pathogenesis of NAFLD. Obstructive sleep apnoea (OSA) is an important predictor of hepatic fibrosis in patients with NAFLD.