

HEPATOLOGY

Faculty

Professor and Head	Y.K. Chawla	MD, DM, FAMS, FACG
Professors	R.K. Dhiman	MD, DM, MNAMS, FACG
	Virendra Singh	MD, DM
Associate Professor	Ajay Duseja	MD, DM, MNAMS, FACG

Prof. Y. Chawla was invited as a faculty to attend the Joint Meeting of Gastroenterology working Group and Hepatology and Pancreaticobiliary (HPB) working group of IM-TAG toward Revision for WHO ICD-11 from 5-6 April 2010 at Tokyo. He was invited as a faculty to the International Consensus on the diagnosis and treatment of Portal Hypertension Baveno VI held at Stressa, (Italy) 19-22 May 2010.. He attended as a faculty “The Asian Pacific Digestive Week” (APDW) held at Kuala Lumpur, Malaysia from 19-22 September 2010. He was invited as a faculty to deliver a lecture at the Biannual International Conference of the Association of Bangladesh (Livercon-2010) held at Dhaka on 2nd October 2010. He was invited to the Executive Council meeting of the NAMS CON-2010 held at Patiala from 29-31 October 2010. He was invited as a faculty to deliver a lecture on “Infections in chronic liver diseases” at the Annual Indian Society of Gastroenterology Meeting at Hyderabad from November 21-25 2010. He was invited to the 3rd Kolkata Liver Meeting at IPGMER Kolkatta from 3-5 December 2010 to deliver a lecture on “Screening for HCC in HBV, when, how and the benefits”. He attended as a guest faculty the 6th World and Ist Indian Organ Donation Day and Organ Donation Congress held at New Delhi on 27-28 November 2010. He also attended as a faculty Asian Pacific Association for the Study of Liver (APASL) single topic conference on “Hepatitis C Virus” held at Chiba Japan from 17-18 Dec. 2010 and delivered a lecture on “Factors influencing of IFN Ribavirin Therapy IV”. He also attended as a Faculty 66th Annual Conference of Association of Physicians of India 2011 held at Ahmedabad from 6-9 January 2011 to deliver a talk on : Managing drug resistance in HBV”. He also attended as a Faculty ‘EUS-2011’ – Mid Term meeting of Society of Gastrointestinal Endoscopy of India held at Kolkata from 15-16

January 2011. He was invited as a speaker on “Approach to acute kidney injury in cirrhotic patients” and to chair a session on “Concurrent Symposium : Emerging hepatitis B and Hepatitis E virus infection in special situations” at the 21st Asian Pacific Association for the Study of Liver Meeting held at Bangkok, Thailand from 17-20 February 2011. He was the organizing Chairperson as a Chairman for the 19th Annual Conference of the Indian National Association for the Study of the Liver (INASL) held in association with International Liver Transplant Society (ILTS) at PGIMER, Chandigarh from March 25 to March 27, 2011.

Dr. Dhiman was invited to deliver a talk on “Cerebral edema in cirrhosis” at the 14th ISHEN symposium held at Val David, Canada from September 14-18, 2010. He was a panelist in Symposium on Hepatitis B virus management at UPISGCON 2010 held in Agra on 25th – 26th September 2010. He delivered a talk on “Chronic hepatitis C: How do I treat?” in Gastroenterology and Liver Forum, Chandigarh in November 2010. He was invited to deliver a talk on “Care of a patient with an end-stage liver disease” at the Physicians Forum at Jalandhar in July 2010. He delivered a lecture on “Prognostic markers in acute liver failure – Indian scenario” in a single theme INASL meeting on Acute Liver Failure held on 18th and 19th December 2010 at the Institute of Digestive & Hepatobiliary Sciences, Delhi-NCR (Gurgaon). He was guide and co-author in the paper ‘Inhibitory Control Test for the Detection of Minimal Hepatic Encephalopathy in Patients with Cirrhosis of Liver’ which received the first prize in the 19th Annual Conference of the Indian National association for the study of Liver held at PGIMER, Chandigarh in March, 2011.

Dr. Virendra Singh Conferences attended APDW Conference held at Kuala Lumpur (Malaysia) in September 2010. He also attended Annual Conference of Indian Society of Gastroenterology, held at Hyderabad in October 2010.

Dr. Ajay Duseja was awarded a travel fellowship from Indian Society of Gastroenterology to participate and present a paper at the Asian Pacific Digestive Week (APDW), held at Kuala Lumpur, Malaysia in September 2010. He was a guest speaker on ‘Nonalcoholic Fatty Liver Disease’ at a CME organized by Digestive Disease Forum, Jalandhar in June 2010. He was a guest speaker on ‘Approach to a patient incidentally detected to be HCV positive’ and ‘Approach to a patient with incidental detection of Fatty liver’ at a ‘Hepatology CME’ organized by the department of Medicine at Dr. R.P.G.M.C., Tanda in July 2010. He was also a guest speaker on ‘Management of Chronic hepatitis C in Chronic kidney disease’ at a single theme meeting on

‘Clinical Advances in Viral hepatitis’ organized by the Kolkata Gastroenterology Society in August 2010. He gave two talks on ‘Nonalcoholic fatty liver disease (NAFLD) – The Indian Scenario’ and ‘Chronic Hepatitis C – Treatment Guidelines for Physicians’ at the Annual conference of the Association of Physicians of India (HP Chapter) held at Dr RPGMC, Tanda in September 2010. He was a guest speaker on ‘Chemotherapy of HCV does not prevent HCC’ at the Mid-term conference of the Indian National association for the Study of Liver (INASL) held at Sir Ganga Ram Hospital, New Delhi in September 2010. He spoke on ‘Timing of Liver Transplantation’ at the Annual 10th Current Perspectives in Liver Diseases (CPLD) organized at AIIMS, New Delhi in September 2010. He was the guest speaker on ‘Pathogenesis of Lean NAFLD – Is it different?’ and ‘Chronic hepatitis B – what should be the end point of treatment?’ and also a panelist on ‘Drug Induced Liver Injury’ at the Annual conference of the Indian Society of Gastroenterology (ISG) held at Hyderabad in November 2010. He was a guest speaker on ‘HBV infection in ALF – Bystander or culprit’ at the single theme meeting of INASL on Acute Liver failure at Medanta, Medicity Gurgaon in December 2010. He was also a guest speaker on ‘Management of HBV infection prior to cancer chemotherapy’ at the 3rd Kolkata Liver Meeting of Liver foundation, West Bengal held at Kolkata in December 2010. He chaired a session on ‘Therapeutic EUS’ at the mid-term meeting of SGEI on ‘Endoscopic Ultrasound - 2011’ held at Apollo Hospital, Kolkata in January 2011. He was guide and co-author in the paper ‘Histological severity in patients with nonalcoholic fatty liver disease is related to the volume of subcutaneous adipose tissue’ which received the second prize in the 19th Annual Conference of the Indian National association for the study of Liver held at PGIMER, Chandigarh in March, 2011.

An outpatient liver clinic is conducted every Monday and Friday. A total of 12836 old and 3408 new patients were seen in liver clinic during 2010-2011.

During the year, the investigations performed included:

Name of Test/Procedure	2010-2011	2009-2010	2008-2009
UGI Endoscopies	1797	1570	1409
Lower GI Endoscopies	120	30	101
ERCPS	367	377	226
Ultrasound	2087	3350	2695
Liver function tests	3000	3066	2695
Anti HCV	3322	5010	2721
HBsAg	3143	5000	3140
HBeAg/Anti HBe	1599	1000/520	1015
Anti HEV (IgM)	436	786	430
Anti HBc (IgM)	97	220	187
Anti HBc (total)	20	88	100
Anti HBs	126	77	-
Anti HAV (IgM)	180	-	-

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

Training

Residents 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.

For the first time in the country, the department has started the DM programme in Hepatology. Three of these students have now passed DM Hepatology will be completing their training in June 2011. Six PhD students are undergoing training in the Department. One Short Term trainee from Tanda Medical College was also trained from 7.2.2011 to 6.3.2011 (one month).

Research completed

(Sponsoring agency)

1. Usefulness of inhibitory control test for the diagnosis of minimal hepatic encephalopathy (DM thesis sanctioned by PGI) (Departmental)

Minimal hepatic encephalopathy (MHE) is the mildest form in the spectrum of hepatic encephalopathy, the psychometric hepatic encephalopathy score (PHES) was recommended for the diagnosis of this condition. Inhibitory control test is reliable and sensitive tool for diagnosis of MHE and can also predict overt episodes of HE. We assessed the usefulness of ICT for the diagnosis of MHE and for the prediction of the development of overt episodes of HE. ICT has low sensitivity for the diagnosis of MHE and does not predict overt episodes of HE and sensitivity.

2. Extrapyramidal Signs (EPS) in Patients with Cirrhosis Who Have Minimal Hepatic Encephalopathy (MD thesis sanctioned by PGI) (Departmental)

This study aimed to find out the prevalence of EPS in cirrhotic patients, to investigate the relationship between EPS and minimal hepatic encephalopathy (MHE)/cognitive impairment and the influence of EPS on health-related quality of life (HRQOL). This study demonstrated a relationship between the presence of cognitive impairment and EPS in patients with cirrhosis of liver. Patients with EPS had worse quality of life as measured by SF-36.

Research completed (Dr.Dhiman) (Funding Agency)

1. FIRST DEMONSTRATION OF ALTERED EXPRESSION OF GENES CODING FOR KEY CNS PROTEINS INVOLVED IN NEURONAL EXCITABILITY AND BRAIN EDEMA IN PATIENTS WITH ACUTE LIVER FAILURE

(ICMR, New Delhi)

Encephalopathy as well as brain edema and its sequelae (intracranial hypertension, brain herniation) remain major CNS complications of acute liver failure (ALF), the mechanisms responsible for which have not been identified. Our study on human brains in patients with acute liver failure provides the first direct evidence for selective alterations in expression of genes coding for key astrocytic proteins (decreased EAAT-2 and GFAP protein expression) implicated in CNS excitability and for brain edema in human ALF and underline the important role of the astrocyte in the pathogenesis of these CNS complications.

2. COMPARISON OF CLINICAL PROGNOSTIC INDICATORS WITH MODEL FOR END-STAGE LIVER DISEASE (MELD) AND KING'S COLLEGE HOSPITAL CRITERIA FOR MORTALITY PREDICTION IN ACUTE LIVER FAILURE (ALF)

(Departmental)

In a retrospective study we showed clinical prognostic indicators (CPI) were better than King's College Hospital (KCH) criteria and Model for End Stage Liver Disease (MELD) score to predict mortality in patients with acute liver failure (ALF). The aims of the present study were to validate CPI and to compare CPI with MELD and KCH criteria. A total of 86 patients, (mean age 26.8(10.9) years with ALF due to acute viral hepatitis were prospectively included into the study. Hepatitis E was the most common etiology present in 31(36%) patients followed by hepatitis A and hepatitis B in 17(19.7%) each. A total of 28 (33.5%) patients survived. To predict mortality; area under curve (95% CI) was better for CPI [.754 (.641-.867)] than MELD [.673 (.546-.800)] and KCH criteria [.620 (.501-.739)]. In conclusion, MELD and KCH criteria are not as useful as CPI in predicting adverse outcome in patients with ALF due to acute viral hepatitis.

Research completed (Dr.Ajay Duseja)

1. Correlation of visceral adipose tissue (VAT) with metabolic syndrome (MS) and liver histology in patients with nonalcoholic fatty liver disease (NAFLD) - Departmental

Twenty-one biopsy proven patients with NAFLD were included prospectively. Even though overweight/obese patients had severe liver disease, there was no difference in the volume of VAT adjusted for BMI between 6 (28.5%) lean patients and 15 (71.5%) overweight/obese patients. Presence of MS or insulin resistance had no significant correlation with the histological severity. Patients with NASH and borderline NASH on histology were older, obese with higher adipose tissue volumes (VAT and SAT) than the no- NASH group. Both SAT and VAT adjusted for BMI correlated with hepatic steatosis but only subcutaneous adipose tissue (SAT) adjusted for BMI correlated with insulin resistance, number of components of metabolic syndrome and NAFLD activity score on histology.

2. Surrogate markers of nonalcoholic fatty liver disease (NAFLD) in patients with cryptogenic cirrhosis and cryptogenic hepatocellular carcinoma. (Departmental)

Surrogate markers of NAFLD in 65 patients with cryptogenic cirrhosis (CC) and 40 patients with cryptogenic hepatocellular carcinoma (CHCC) were compared with comparable age, gender and severity of liver disease of 50 patients with virus related cirrhosis (VCC) and 40 patients with virus related HCC (VHCC). Mean BMI was higher in patients with CC in comparison to VCC. Higher number of patients with CC had abnormal waist, type 2 diabetes mellitus and lower serum high density lipoproteins (HDL) in comparison to VCC. There was no difference in mean BMI, abnormal HDL, serum triglycerides and hypertension amongst patients with CHCC and VHCC. Patients with CHCC had higher prevalence of type 2 diabetes mellitus in comparison to VHCC.

3. Non-hepatotropic infections and sepsis are common acute precipitants in patients with acute on chronic liver failure (ACLF). (Departmental)

One-hundred consecutive patients with ACLF were included prospectively over one and a half years. The diagnosis of ACLF was based on the Asian Pacific Association for the Study of Liver criteria except for including non-hepatic insults as acute events. Infections and sepsis were diagnosed as acute precipitating events based on the temporal correlation with recent deterioration and after excluding all other possible acute events. Non-hepatotropic infections were acute precipitating event in 32 patients with sepsis present in 26 patients. There was no difference in the incidence of infections/sepsis between alcohol and other causes of cirrhosis. Fifty-three patients had in hospital mortality with no difference in mortality between those with and without infection/sepsis.

Research in Progress

ICMR

1. A multicentric Randomized Controlled Clinical Trial of Adefovir, Adefovir + Lamivudine, and Combination of Adefovir and Glycyrrhizin in HBV related Decompensated Cirrhosis. (ICMR)
2. Alterations in gene expressions coding for key astrocytic and neuronal proteins in patients who have died from acute liver failure or chronic liver failure associated with hepatic encephalopathy. (ICMR)
3. Diagnostic accuracy of serum 1 acid glycoprotein concentration and fucosylation for the differential diagnosis of chronic hepatitis, liver cirrhosis and Hepatocellular carcinoma as measured by Antibody – Lectin Sandwich Assay – ICMR.
4. Expression and polymorphism of toll like receptors (TLR) and small intestinal bacterial overgrowth in patients with nonalcoholic fatty liver disease (NAFLD) - ICMR.
5. To study the protective effect of Nrf2 gene against oxidative stress and inflammation in frontal cortex and cerebellum regions of brain and blood in acute hyperammonemic rats (submitted to ICMR for funding).
6. Comparison of ablative therapies in hepatocellular carcinoma (ICMR).

Pharmaceutical funded

7. An open label, response adaptive study of Telbivudine in adults with HBeAg positive compensated Chronic Hepatitis B (Novartis)
8. Supplementation with a probiotic preparation, VSL#3 as a support pharmaceutical therapy in cirrhotic patients for the treatment of minimal hepatic encephalopathy (MHE); A double-blind, randomized, placebo controlled study. (CD Pharma).
9. Small Intestine bacterial overgrowth and role of probiotic, VSL#3 in patients with Nonalcoholic Fatty Liver Disease (NAFLD). (CD Pharma)
10. Secondary Prophylaxis of hepatic encephalopathy : A double blind, randomized, placebo controlled study with supplementation with a probiotic preparation (CD Pharma).
11. HCV-The Indian Face (BMS)

Departmental

1. G-CSF in alcoholic hepatitis and FHF. (VS)
2. Midodrine and clonidine in refractory ascites in cirrhosis (VS)
3. Noradrenaline and terlipressin in hepatorenal syndrome (VS)
4. Contrast-free air cholangiography-assisted unilateral stenting in malignant hilar biliary obstruction. (VS)
5. Correlation of Transient Elastography and APRI with liver histology in patients with nonalcoholic fatty liver disease and chronic viral hepatitis (AD)

Publications : (Annexure)

International Publications

1. Rajekar H, Chawla Y. Terlipressin in hepatorenal syndrome: Evidence for present indications. *J Gastroenterol Hepatol*. 2011 Jan;26 Suppl 1:109-14
2. Taneja S, Kalra N, Dhiman RK, Chawla YK. An abnormal portal vein. *Liver Int*. 2011 Jan;31(1):65
3. Menachery J, Chawla Y, Duseja A, Dhiman RK, Kalra N, Vankar S. Retroduodenal Perforation Without Sphincterotomy: A Case Report. *Dig Dis Sci*. 2011; 56: 610-1.
4. Justa S, Minz RW, Minz M, Sharma A, Anand S, Das A, Chawla YK, Sakhuja VK. Serial measurements of hepatitis C viral load by real-time polymerase chain reaction among recipients of living-donor renal transplants: a short-term follow-up study from a single center. *Transplant Proc*. 2010; 42:3568-73.
5. Sharma B, Srinivasan R, Chawla YK, Kapil S, Saini N, Singla B, Chakraborty A, Kalra N, Duseja A, Dhiman RK. Clinical utility of prothrombin induced by vitamin K absence in the detection of hepatocellular carcinoma in Indian population. *Hepatol Int*. 2010;13: 4: 569-76
6. Duggal R, Garg M, Kalra N, Srinivasan R, Chawla Y. Spleen metastasis from hepatocellular carcinoma: report of a case with diagnosis by fine needle aspiration cytology. *Acta Cytol*. 2010;54(5 Suppl):783-6
7. Omata M, Lesmana LA, Tateishi R, Chen PJ, Lin SM, Yoshida H, Kudo M, Lee JM, Choi BI, Poon RT, Shiina S, Cheng AL, Jia JD, Obi S, Han KH, Jafri W, Chow P, Lim SG, Chawla YK, Budihusodo U, Gani RA, Lesmana CR, Putranto TA, Liaw YF, Sarin SK. Asian Pacific Association for the Study of the Liver consensus recommendations on hepatocellular carcinoma. *Hepatol Int*. 2010 ;4:439-74
8. Duseja A, Sharma B, Kumar A, Kapil S, Das A, Dhiman RK, Chawla YK. Nonalcoholic fatty liver in a developing country is responsible for significant liver disease. *Hepatology*. 2010;52:2248-9

9. Duseja A, Chawla YK, Dhiman RK, Kumar A, Choudhary N, Taneja S. Non-hepatic insults are common acute precipitants in patients with acute on chronic liver failure (ACLF). *Dig Dis Sci.* 2010;55: 3188-92.
10. Gupta A, Dhiman RK, Kumari S, Rana S, Agarwal R, Duseja A, Chawla Y. Role of small intestinal bacterial overgrowth and delayed gastrointestinal transit time in cirrhotic patients with minimal hepatic encephalopathy. *J Hepatol.* 2010;53:849-55.
11. Justa S, Minz RW, Minz M, Sharma A, Pasricha N, Anand S, Chawla YK, Sakhuja VK. Cellular immune response and cytokine profile among hepatitis C positive living donor renal transplant recipients. *Transplantation.* 2010;90:654-60
12. Dhiman RK, Saraswat VA, Sharma BK, Sarin SK, Chawla YK, Butterworth R, Duseja A, Aggarwal R, Amarapurkar D, Sharma P, Madan K, Shah S, Seth AK, Gupta RK, Koshy A, Rai RR, Dilawari JB, Mishra SP, Acharya SK; Indian National Association for Study of the Liver. Minimal hepatic encephalopathy: consensus statement of a working party of the Indian National Association for Study of the Liver. *J Gastroenterol Hepatol.* 2010;25:1029-41
13. Aggarwal N, Chopra S, Suri V, Sikka P, Dhiman RK, Chawla Y. Pregnancy outcome in women with autoimmune hepatitis. *Arch Gynecol Obstet.* 2011; 284: 19-23.
14. Sharma M, Ramesh Babu CS, Dhiman RK, Chawla Y. Induced hypotension in the management of acute hemobilia during therapeutic ERCP in a patient with portal biliopathy (with videos). *Gastrointest Endosc.* 2010;72:1317-9
15. Pujhari SK, Kumar S, Ratho RK, Chawla YK, Chakraborti A. Phylogenetic analysis and subtyping of acute and fulminant strains of hepatitis E virus isolates of North India with reference to disease severity. *Arch Virol.* 2010;155:1483-6
16. Dhiman RK, Kurmi R, Thumburu KK, Venkataramarao SH, Agarwal R, Duseja A, Chawla Y. Diagnosis and prognostic significance of minimal hepatic encephalopathy in patients with cirrhosis of liver. *Dig Dis Sci.* 2010;55:2381-90
17. Noor MT, Lal A, Kochhar R, Singhal M, Sidhu GS, Srinivasan R, Rawat A, Dutta U, Dhiman RK, Chawla YK, Singh K. Autoimmune pancreatitis: a report from India. *JOP.* 2010;11:213-9
18. Sharma S, Sharma B, Singla B, Chawla YK, Chakraborti A, Saini N, Duseja A, Das A, Dhiman RK. Clinical significance of genotypes and precore/basal core promoter

mutations in HBV related chronic liver disease patients in North India. *Dig Dis Sci.* 2010;55:794-802

19. Aggarwal N, Chopra S, Raveendran A, Suri V, Dhiman RK, Chawla YK. Extra hepatic portal vein obstruction and pregnancy outcome : largest reported, experience. *J Obstet Gynaecol Res.* 2011 Mar 6.
20. Sodhi KS, Saxena AK, Khandelwal N, Dhiman RK. Giant paraumbilical veins in Cruveilhier-Baumgarten syndrome. *Gastrointest Endosc.* 2010; 72: : 435-6.
21. Taneja S, Kalra N, Duseja A, Dhiman RK. Noncirrhotic portal portal fibrosis and abdominal varices. *Liver Int.* 2010; 30: 715-7.
22. Saikia UN, Sharma N, Duseja A, Bhalla A, Joshi K. Anaplastic large cell lymphoma presenting as acute liver failure : A report of two cases with of literature. *Ann Hepatol.* 2010; 9: 457-61.
23. Sachdeva A, Bhalla A, Sood A, Duseja A, Gupta V. The effect of sedation During upper gastrointestinal endoscopy. *Saudi J Gastroenterol* 2010; 16: 280-4.
24. Varma S, Menon MC, Garg A, Malhotra P, Sharma A, Chawla YK, Dhiman RK. Hepatitis C virus infection among patients with non-Hodgkin's lymphoma in northern India. *Hepatol Int.* 2011; 5: 688-92.
25. Singh V, Singh G, Verma GR, Gupta R. Endoscopic management of postcholecystectomy biliary leaks. *Hepatobiliary Pancreat Dis Int* 2010; 9: 409-413.

National Publications

1. Duseja A. Nonalcoholic fatty liver disease in India - a lot done, yet more required! *Indian J Gastroenterol.* 2010 29: 217-25.
2. Sarma S, Sharma B, Chawla YK, Kapil S, Singla B, Kalra N, Behera A, Duseja A, Dhiman RK. Comparison of 7 staging systems in north Indian cohort of hepatocellular carcinoma. *Tropical Gastroenterology* 2010;31(4):271–278.
3. Dhiman RK, Chawdhry N, Chawla YK. Has the time come for cyanoacrylate injection to become the standard-of-care for gastric varices ? *Trop Gastroenterol.* 2010; 3: 141-4.

Chapter in Book

1. Treatment of Hepatitis C in “the Liver Annual-2010” an INASL publication.

ANNEXURE

List of Visiting Professors

1. Prof. Rajan Saxena, Head of GI Surgery, SGPGI, Lucknow on 8-9 September 2010

Part I

(Awards and Honours)

Academic Activities

Dr R K Dhiman has become Fellow of National Academy of Medical sciences (FAMS) and received the degree at the convocation held at Government Medical College, Patiala on October 31, 2010. He became Editor-in-Chief of *Journal of Clinical and Experimental Hepatology*. He has also been elected as a member to the Executive Committee of prestigious International body – International Society of Hepatic Encephalopathy and Nitrogen Metabolism (ISHEN) in 2010. He organized 19th Annual Conference of the Indian national association for the Study of the Liver (INASL) in association with International Liver. Dr. R.K. Dhiman was elected executive member of prestigious international body – ISHEN for year 2008-2011.

Dr. Virendra Singh has become a member of Editorial Board of World Journal of Gastrointestinal Pathophysiology. He also delivered a guest lecture on “Role of Endoscopy in Carcinoma Gall Bladder” ISGCON of Bihar and Jharkhand Chapter at Gaya on 2nd May 2010.

Dr Ajay Duseja was awarded a travel fellowship from Indian Society of Gastroenterology to present a paper at the Asian Pacific Digestive Week, held at Kuala Lumpur, Malaysia in September 2010.

Part II-

Departmental highlights

19th Annual Conference of the Indian National Association for the Study of Liver (INASL) in association with International Liver Transplant (ILTS), INASL Liver Meeting – 2011 was organized by the Department of Hepatology, Postgraduate Institute of Medical Education and Research, Chandigarh at Chandigarh on 25th to 27th March 2011. . Papers from the department bagged both the first and second prizes in the plenary session of the conference.

Dr RK Dhiman became the Editor-in-Chief of *Journal of Clinical and Experimental Hepatology*.

Dr RK Dhiman has been awarded the fellowship of National Academy of Medical sciences (FAMS). Dr Sunil Taneja, a DM student, received first prize in the Plenary session of 19th annual conference of the Indian national association for the Study of the liver (INASL)

Dr Sunil Taneja, a DM student, presented his thesis work entitled “Usefulness of Inhibitory Control Test for the Diagnosis of Minimal Hepatic Encephalopathy” and received the Travel Fellowship. Mr Kiran K Thumburu, a PhD student, presented his thesis work entitled “Alterations in expression of genes coding for key astrocytic proteins in frontal cortex of autopsied brain tissues of patients with ALF and of patients with liver cirrhosis and HE” and received the Travel Fellowship for the same.

Part – III

Research highlights

Both visceral adipose tissue (VAT) and subcutaneous adipose tissue (SAT) are related to the degree of hepatic steatosis, but only SAT is related to the histological severity in patients with nonalcoholic fatty liver disease (NAFLD). NAFLD is an important cause of cryptogenic cirrhosis and hepatocellular carcinoma. Non-hepatotropic infections and sepsis are common acute precipitants in patients with acute on chronic liver failure.

In hepatocellular carcinoma (HCC) angiogenesis is essential for invasion and metastasis. Further the process of angiogenesis is regulated by a balance between angiogenic (VEGF, HIF-1 α and Angiopoietin-2) and anti-angiogenic factors (endostatin, angiostatin and TSP-1). All of these angiogenic and anti-angiogenic factors were highly expressed in HCC patients but only VEGF has the prognostic relevance.

1. Chawla Y, Duseja A, Dhiman RK. Review article: the modern management of portal vein thrombosis. *Aliment Pharmacol Ther.* 2009 ;30 :881-94.
2. Duseja A, Chawla Y. Treatment of HCV cirrhosis--simple or not quite so? *Trop Gastroenterol* 2009; 30:183-85.
3. Duseja A, Dhiman RK, Chawla Y, Thumburu KK, Kumar A, Das A, Bhadada S, Bhansali A. Insulin resistance is common in patients with predominantly genotype 3 chronic hepatitis C. *Dig Dis Sci* 2009 ;54:1778-82.
4. Duseja A, Das A, Chawla YK, Bhansali A, Sakhuja V. Clinicopathological conference: fibrosing cholestatic hepatitis presenting as subacute hepatic failure in a non-transplant patient. *Dig Dis Sci* 2009 ;54: 2341-45.
5. Gupta V, Singh V, Kalra N, Vaiphei K. Pancreas sparing resection for giant hamartoma of Brunner's glands *JOP* 2009; 10:196-99.
6. Kiran M, Chawla YK, Kaur J. Methylation profiling of tumor suppressor genes and oncogenes in hepatitis virus-related hepatocellular carcinoma in northern India. *Cancer Genet Cytogenet.* 2009; 195:112-19.
7. Kiran M, Chawla YK, Jain M, Kaur J. Haplotypes of microsomal epoxide hydrolase and x-ray cross-complementing group 1 genes in Indian hepatocellular carcinoma patients. *DNA. Cell Biol* 2009; 28:573-77.
8. Kiran M, Saxena R, Chawla YK, Kaur J. Polymorphism of DNA repair gene XRCC1 and hepatitis-related hepatocellular carcinoma risk in Indian population. *Mol Cell Biochem* 2009 ;327:7-13.
9. Noor MT, Lal A, Kochhar R, Singhal M, Sidhu GS, Srinivasan R, Rawat A, Dutta U, Dhiman RK, Chawla YK, Singh K. Autoimmune pancreatitis: a report from India. *JOP* 2010; 11: 213-19.
10. Sharma S, Sharma B, Singla B, Chawla YK, Chakraborti A, Saini N, Duseja A, Das A, Dhiman RK. Clinical significance of genotypes and precore/basal core promoter

mutations in HBV related chronic liver disease patients in North India. *Dig Dis Sci* 2010; 55: 794-802.

11. Sarin SK, Kumar A, Almeida JA, Chawla YK, Fan ST et al. Acute-on-chronic liver failure: consensus recommendations of the Asian Pacific Association for the study of the liver (APASL). *Hepato Int*. 2009 ;3:269-82.
12. Shiha G, Sarin SK, Ibrahim AE, Chawla YK, Omata M et al. Jury of the APASL Consensus Development Meeting 29 January 2008 on Liver Fibrosis With Without Hepatitis B or C. Liver fibrosis: consensus recommendations of the Asian Pacific Association for the Study of the Liver (APASL). *Hepato Int*. 2009; 3:323-33.
13. Saini N, Srinivasan R, Chawla Y, Sharma S, Chakraborti A, Rajwanshi A. Telomerase activity, telomere length and human telomerase reverse transcriptase expression in hepatocellular carcinoma is independent of hepatitis virus status. *Liver Int* 2009;29:1162-70
14. Sharma A, Chakraborti A, Das A, Dhiman RK, Chawla Y. Elevation of interleukin-18 in chronic hepatitis C: implications for hepatitis C virus pathogenesis. *Immunology* 2009;128:514-22.
15. Singh V, Bhalla A, Sharma N, Dheerendra PC, Agarwal R, Mahi SK.. Nasobiliary drainage in acute cholestatic hepatitis with pruritus. *Dig Liver Dis* 2009 ;41:442-45.
16. Singh V, Singh G, Gupta V, Gupta R, Kapoor R. Contrast-free air cholangiography-assisted unilateral plastic stenting in malignant hilar biliary obstruction. *Hepatobiliary Pancreat Dis Int* 2010 ;9:88-92.
17. Sharma N, Sharma A, Varma S, Lal A, Singh V. Amoebic liver abscess in the medical emergency of a North Indian hospital. *BMC Res Notes* 2010; 25:21.
18. Taneja S, Kalra N, Duseja A, Dhiman RK. Noncirrhotic portal fibrosis and abdominal varices. *Liver Int* 2010;30:715-17.
19. Vermani N, Kang M, Khandelwal N, Singh P, Chawla YK. MR cholangiopancreatographic demonstration of biliary tract abnormalities in AIDS cholangiopathy: report of two cases. *Clin Radiol* . 2009 ;64:335-38.
20. Virmani V, Khandelwal N, Kang M, Gulati M, Chawla Y. MDCT venography in the evaluation of inferior vena cava in Budd-Chiari syndrome. *Indian J Gastroenterol*. 2009;28:17-23.

ANNEXURE

List of Visiting Professors

2. Prof. Rajan Saxena, Head of GI Surgery, SGPGI, Lucknow on 8-9 September 2010

Part I

(Awards and Honours)

Dr. R.K. Dhiman was elected executive member of prestigious international body – ISHEN for year 2008-2011.

Dr Ajay Duseja was awarded a travel fellowship from Indian Society of Gastroenterology to present a paper at the Asian Pacific Digestive Week, held at Kuala Lumpur, Malaysia in September 2010.

Part II-

Departmental highlights

19th Annual Conference of the Indian National Association for the Study of Liver (INASL) in association with International Liver Transplant (ILTS), INASL Liver Meeting – 2011 was organized by the Department of Hepatology, Postgraduate Institute of Medical Education and

Research, Chandigarh at Chandigarh on 25th to 27th March 2011. . Papers from the department bagged both the first and second prizes in the plenary session of the conference.

Part – III

Research highlights

Both visceral adipose tissue (VAT) and subcutaneous adipose tissue (SAT) are related to the degree of hepatic steatosis, but only SAT is related to the histological severity in patients with nonalcoholic fatty liver disease (NAFLD). NAFLD is an important cause of cryptogenic cirrhosis and hepatocellular carcinoma. Non-hepatotropic infections and sepsis are common acute precipitants in patients with acute on chronic liver failure.

Dr Ajay Duseja

Dr Ajay Duseja was awarded a travel fellowship from Indian Society of Gastroenterology to participate and present a paper at the Asian Pacific Digestive Week (APDW), held at Kuala Lumpur, Malaysia in September 2010. He was a guest speaker on 'Nonalcoholic Fatty Liver Disease' at a CME organized by Digestive Disease Forum, Jalandhar in June 2010. He was a guest speaker on 'Approach to a patient incidentally detected to be HCV positive' and 'Approach to a patient with incidental detection of Fatty liver' at a 'Hepatology CME' organized by the department of Medicine at Dr RPGMC, Tanda in July 2010. He was also a guest speaker on 'Management of Chronic hepatitis C in Chronic kidney disease' at a single theme meeting on 'Clinical Advances in Viral hepatitis' organized by the Kolkata Gastroenterologists Society in August 2010. He gave two talks on 'Nonalcoholic fatty liver disease (NAFLD) – The Indian Scenario' and 'Chronic Hepatitis C – Treatment Guidelines for Physicians' at the Annual conference of the Association of Physicians of India (HP chapter) held at Dr RPGMC, Tanda in September 2010. He was a guest speaker on 'Chemotherapy of HCV does not prevent HCC' at the Mid-term conference of the Indian National association for the Study of Liver (INASL) held at Sir Ganga Ram Hospital, New Delhi in September 2010. He was also a guest speaker on 'Nonalcoholic fatty liver disease' at the Gastroenterology CME organized at Fortis Hospital, Mohali in October 2010. He spoke on 'Timing of Liver Transplantation' at the Current Perspectives in Liver Diseases (CPLD) organized at AIIMS, New Delhi in September 2010. He was the guest speaker on 'Pathogenesis of Lean NAFLD – Is it different?' and 'Chronic hepatitis B – what should be the end point of treatment ?' and also a panelist on 'Drug Induced Liver Injury' at the Annual conference of the Indian Society of Gastroenterology (ISG) held at Hyderabad in November 2010. He was a guest speaker on 'HBV infection in ALF – Bystander or culprit' at the single theme meeting of INASL on Acute Liver failure at Medanta, Medicity Gurgaon in December 2010. He was also a guest speaker on 'Management of HBV infection prior to cancer chemotherapy' at the 3rd Kolkata Liver Meeting of Liver foundation, West Bengal held at Kolkata in December 2010. He chaired a session on 'Therapeutic EUS' at the mid-term meeting of SGEI on 'Endoscopic Ultrasound -2011' held at Apollo Hospital, Kolkata in January 2011. He was guide and co-author in the paper 'Histological severity in patients with

nonalcoholic fatty liver disease is related to the volume of subcutaneous adipose tissue' which received the second prize in the 19th Annual Conference of the Indian National association for the study of Liver held at PGIMER, Chandigarh in March, 2011.

Research Completed

12. Correlation of visceral adipose tissue (VAT) with metabolic syndrome (MS) and liver histology in patients with nonalcoholic fatty liver disease (NAFLD).

Twenty-one biopsy proven patients with NAFLD were included prospectively. Even though overweight/obese patients had severe liver disease, there was no difference in the volume of VAT adjusted for BMI between 6 (28.5%) lean patients and 15 (71.5%) overweight/obese patients. Presence of MS or insulin resistance had no significant correlation with the histological severity. Patients with NASH and borderline NASH on histology were older, obese with higher adipose tissue volumes (VAT and SAT) than the no- NASH group. Both SAT and VAT adjusted for BMI correlated with hepatic steatosis but only subcutaneous adipose tissue (SAT) adjusted for BMI correlated with insulin resistance, number of components of metabolic syndrome and NAFLD activity score on histology.

13. Surrogate markers of nonalcoholic fatty liver disease (NAFLD) in patients with cryptogenic cirrhosis and cryptogenic hepatocellular carcinoma.

Surrogate markers of NAFLD in 65 patients with cryptogenic cirrhosis (CC) and 40 patients with cryptogenic hepatocellular carcinoma (CHCC) were compared with comparable age, gender and severity of liver disease of 50 patients with virus related cirrhosis (VCC) and 40 patients with virus related HCC (VHCC). Mean BMI was higher in patients with CC in comparison to VCC. Higher number of patients with CC had abnormal waist, type 2 diabetes mellitus and lower serum high density lipoproteins (HDL) in comparison to VCC. There was no difference in mean BMI, abnormal HDL, serum triglycerides and hypertension amongst patients with CHCC and VHCC. Patients with CHCC had higher prevalence of type 2 diabetes mellitus in comparison to VHCC.

14. Non-hepatotropic infections and sepsis are common acute precipitants in patients with acute on chronic liver failure (ACLF).

One-hundred consecutive patients with ACLF were included prospectively over one and a half years. The diagnosis of ACLF was based on the Asian Pacific Association for the Study of Liver criteria except for including non-hepatic insults as acute events. Infections and sepsis were diagnosed as acute precipitating events based on the temporal correlation with recent deterioration and after excluding all other possible acute events. Non-hepatotropic infections were acute precipitating event in 32 patients with sepsis present in 26 patients. There was no difference in the incidence of infections/sepsis between alcohol and other causes of cirrhosis. Fifty-three patients had in hospital mortality with no difference in mortality between those with and without infection/sepsis.

Research in Progress

1. ICMR

- a.** Expression and polymorphism of toll like receptors and small intestinal bacterial overgrowth in patients with Nonalcoholic Fatty Liver Disease.

2. CD Pharma

- a.** Small Intestine bacterial overgrowth and role of probiotic, VSL#3 in patients with Nonalcoholic Fatty Liver Disease.

3. Departmental

- a.** Correlation of Transient Elastography and APRI with liver histology in patients with nonalcoholic fatty liver disease and chronic viral hepatitis.

Indexed Publications

1. Duseja A, Sharma B, Kumar A, Kapil S, Das A, Dhiman RK, Chawla YK. Nonalcoholic fatty liver in a developing country is responsible for significant liver disease. *Hepatology*. 2010; 52:2248-9.
2. Duseja A, Chawla YK, Dhiman RK, Kumar A, Choudhary N, Taneja S. Non-hepatic insults are common acute precipitants in patients with acute on chronic liver failure (ACLF). *Dig Dis Sci*. 2010; 55:3188-92.
3. Duseja A. Nonalcoholic fatty liver disease in India - a lot done, yet more required! *Indian J Gastroenterol*. 2010; 29:217-25.
4. Menachery J, Chawla Y, Duseja A, Dhiman RK, Kalra N, Vankar S. Retroduodenal perforation without sphincterotomy: a case report. *Dig Dis Sci*. 2011; 56:610-1.
5. Saikia UN, Sharma N, Duseja A, Bhalla A, Joshi K. Anaplastic large cell lymphoma presenting as acute liver failure: A report of two cases with review of literature. *Ann Hepatol*. 2010; 9:457-61.
6. Sachdeva A, Bhalla A, Sood A, Duseja A, Gupta V. The effect of sedation during upper gastrointestinal endoscopy. *Saudi J Gastroenterol*. 2010; 16:280-4.
7. Taneja S, Kalra N, Duseja A, Dhiman RK. Noncirrhotic portal fibrosis and abdominal varices. *Liver Int*. 2010; 30:715-7.
8. Sarma S, Sharma B, Chawla YK, Kapil S, Singla B, Kalra N, Behera A, Duseja A, Dhiman RK. Comparison of 7 staging systems in north Indian cohort of hepatocellular carcinoma. *Trop Gastroenterol*. 2010; 31:271-8.
9. Sharma B, Srinivasan R, Chawla YK, Kapil S, Saini N, Singla B, Chakraborty A, Kalra N, Duseja A, Dhiman RK. Clinical utility of prothrombin induced by vitamin K absence in the detection of hepatocellular carcinoma in Indian population. *Hepatol Int*. 2010 13;4:569-76.

10. Gupta A, Dhiman RK, Kumari S, Rana S, Agarwal R, Duseja A, Chawla Y. Role of small intestinal bacterial overgrowth and delayed gastrointestinal transit time in cirrhotic patients with minimal hepatic encephalopathy. *J Hepatol.* 2010; 53:849-55.
11. Dhiman RK, Saraswat VA, Sharma BK, Sarin SK, Chawla YK, Butterworth R, Duseja A, et al. Indian National Association for Study of the Liver. Minimal hepatic encephalopathy: consensus statement of a working party of the Indian National Association for Study of the Liver. *J Gastroenterol Hepatol.* 2010; 25:1029-41.
12. Dhiman RK, Kurmi R, Thumburu KK, Venkataramarao SH, Agarwal R, Duseja A, Chawla Y. Diagnosis and prognostic significance of minimal hepatic encephalopathy in patients with cirrhosis of liver. *Dig Dis Sci.* 2010; 55:2381-90.

Service

An outpatient liver clinic is conducted every Monday and Friday. A total of old and new patients were seen in liver clinic during 2010-2011.

During the year investigations performed included:

Name of Test/Procedure	2010-2011	2009-2010	2008-2009
UGI Endoscopies	1797	1570	1409
Lower GI Endoscopies	120	30	101
ERCPS	367	377	226
Ultrasound	1983	3350	2695
Liver function tests	3000	3066	2695
Anti HCV	3229	5010	2721
HBsAg	3054	5000	3140
HBeAg/Anti HBe	1541	1000/520	1015
Anti HEV (IgM)	420	786	430
Anti HBc (IgM)	67	220	187
Anti HBc (total)	12	88	100
Anti HBs	119	77	-
Anti HAV (IgM)	174	-	-

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

Training

Residents 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.

For the first time in the country, the department has started the DM programme in Hepatology and has taken five students in the year 2008-09 and two in 2009-2010. Under these seven students, for the first time, three students appeared and passed DM Hepatology Training in 2010-2011. Six PhD students are undergoing training in the Department. One Short Term trainee appeared in the department from 7.2.2011 to 6.3.2011 (one month).

Research completed

2. Usefulness of inhibitory control test for the diagnosis of minimal hepatic encephalopathy (DM thesis sanctioned by PGI)

Minimal hepatic encephalopathy (MHE) is the mildest form in the spectrum of hepatic encephalopathy, the psychometric hepatic encephalopathy score (PHES) was recommended for the diagnosis of this condition. ICT is reliable and sensitive tool for diagnosis of MHE and can also predict overt episodes of HE. We assessed the usefulness of ICT for the diagnosis of MHE and for the prediction of the development of overt episodes of HE. ICT has low sensitivity for the diagnosis of MHE and does not predict overt episodes of HE and sensitivity.

3. Extrapramidal Signs in Patients with Cirrhosis Who Have Minimal Hepatic Encephalopathy (MD thesis sanctioned by PGI)

This study aimed to find out the prevalence of EPS in cirrhotic patients, to investigate the relationship between EPS and minimal hepatic encephalopathy (MHE)/cognitive impairment and the influence of EPS on health-related quality of life (HRQOL). This study demonstrated a relationship between the presence of cognitive impairment and EPS in patients with cirrhosis of liver. Patients with EPS had worse quality of life as measured by SF-36.

4. Viorological serological Tumour Markers and Serum Pro & Antiangiogenic Factors in the Spectrum of Chronic Liver Disease and Hepatocellular Carcinoma (ICMR)

Research in Progress

ICMR

15. A multicentric Randomized Controlled Clinical Trial of Adefovir, Adefovir + Lamivudine, and Combination of Adefovir and Glycyrrhizin in HBV related Decompensated Cirrhosis. (ICMR)
16. Alterations in gene expressions coding for key astrocytic and neuronal proteins in patients who have died from acute liver failure or chronic liver failure associated with hepatic encephalopathy. (ICMR)
17. Diagnostic accuracy of serum 1 acid glycoprotein concentration and fucosylation for the differential diagnosis of chronic hepatitis, liver cirrhosis and Hepatocellular carcinoma as measured by Antibody – Lectin Sandwich Assay – ICMR.
18. Expression and polymorphism of toll like receptors (TLR) and small intestinal bacterial overgrowth in patients with nonalcoholic fatty liver disease (NAFLD) - ICMR.

Pharmaceutical funded

19. An open label, response adaptive study of Telbuvudine in adults with HBeAg positive compensated Chronic Hepatitis B (Novartis)
20. Supplementation with a probiotic preparation, VSL#3 as a support pharmaceutical therapy in cirrhotic patients for the treatment of minimal hepatic encephalopathy (MHE); A double-blind, randomized, placebo controlled study. (CD Pharma).
21. Small Intestine bacterial overgrowth and role of probiotic, VSL#3 in patients with Nonalcoholic Fatty Liver Disease (NAFLD). (CD Pharma)
22. Secondary Prophylaxis of hepatic encephalopathy : A double blind, randomized, placebo controlled study with supplementation with a probiotic preparation (CD Pharma).
23. HCV-The Indian Face (BMS)

Departmental

Journal	Number of Publications in 2010-11(Attach list as annexure)
International	23
National Indexed Journals	3

Publications : (Annexure)

Number of Publications in 2010-11 published by the faculty of Hepatology department during the period from 2010-11.

International Publications

26. Rajekar H, Chawla Y. Terlipressin in hepatorenal syndrome: Evidence for present indications. J Gastroenterol Hepatol. 2011 Jan;26 Suppl 1:109-14
27. Taneja S, Kalra N, Dhiman RK, Chawla YK. An abnormal portal vein. Liver Int. 2011 Jan;31(1):65
28. Menachery J, Chawla Y, Duseja A, Dhiman RK, Kalra N, Vankar S. Retroduodenal Perforation Without Sphincterotomy: A Case Report. Dig Dis Sci. 2010 Dec 8.
29. Justa S, Minz RW, Minz M, Sharma A, Anand S, Das A, Chawla YK, Sakhuja VK. Serial measurements of hepatitis C viral load by real-time polymerase chain reaction among recipients of living-donor renal transplants: a short-term follow-up study from a single center. Transplant Proc. 2010; 42:3568-73.
30. Sharma B, Srinivasan R, Chawla YK, Kapil S, Saini N, Singla B, Chakraborty A, Kalra N, Duseja A, Dhiman RK. Clinical utility of prothrombin induced by vitamin K absence in the detection of hepatocellular carcinoma in Indian population. Hepatol Int. 2010;4:569-76

31. Duggal R, Garg M, Kalra N, Srinivasan R, Chawla Y. Spleen metastasis from hepatocellular carcinoma: report of a case with diagnosis by fine needle aspiration cytology. *Acta Cytol.* 2010;54(5 Suppl):783-6
32. Omata M, Lesmana LA, Tateishi R, Chen PJ, Lin SM, Yoshida H, Kudo M, Lee JM, Choi BI, Poon RT, Shiina S, Cheng AL, Jia JD, Obi S, Han KH, Jafri W, Chow P, Lim SG, Chawla YK, Budihusodo U, Gani RA, Lesmana CR, Putranto TA, Liaw YF, Sarin SK. Asian Pacific Association for the Study of the Liver consensus recommendations on hepatocellular carcinoma. *Hepatology.* 2010 ;4:439-74
33. Duseja A, Sharma B, Kumar A, Kapil S, Das A, Dhiman RK, Chawla YK. Nonalcoholic fatty liver in a developing country is responsible for significant liver disease. *Hepatology.* 2010;52:2248-9
34. Duseja A, Chawla YK, Dhiman RK, Kumar A, Choudhary N, Taneja S. Non-hepatic insults are common acute precipitants in patients with acute on chronic liver failure (ACLF). *Dig Dis Sci.* 2010;55:3188-92
35. Gupta A, Dhiman RK, Kumari S, Rana S, Agarwal R, Duseja A, Chawla Y. Role of small intestinal bacterial overgrowth and delayed gastrointestinal transit time in cirrhotic patients with minimal hepatic encephalopathy. *J Hepatol.* 2010;53:849-55.
36. Justa S, Minz RW, Minz M, Sharma A, Pasricha N, Anand S, Chawla YK, Sakhuja VK. Cellular immune response and cytokine profile among hepatitis C positive living donor renal transplant recipients. *Transplantation.* 2010;90:654-60
37. Dhiman RK, Saraswat VA, Sharma BK, Sarin SK, Chawla YK, Butterworth R, Duseja A, Aggarwal R, Amarapurkar D, Sharma P, Madan K, Shah S, Seth AK, Gupta RK, Koshy A, Rai RR, Dilawari JB, Mishra SP, Acharya SK; Indian National Association for Study of the Liver. Minimal hepatic encephalopathy: consensus statement of a working party of the Indian National Association for Study of the Liver. *J Gastroenterol Hepatol.* 2010;25:1029-41
38. Aggarwal N, Chopra S, Suri V, Sikka P, Dhiman RK, Chawla Y. Pregnancy outcome in women with autoimmune hepatitis. *Arch Gynecol Obstet.* 2010 Jun 25
39. Sharma M, Ramesh Babu CS, Dhiman RK, Chawla Y. Induced hypotension in the management of acute hemobilia during therapeutic ERCP in a patient with portal biliopathy (with videos). *Gastrointest Endosc.* 2010;72:1317-9

40. Pujhari SK, Kumar S, Ratho RK, Chawla YK, Chakraborti A. Phylogenetic analysis and subtyping of acute and fulminant strains of hepatitis E virus isolates of North India with reference to disease severity. *Arch Virol.* 2010;155:1483-6
41. Dhiman RK, Kurmi R, Thumburu KK, Venkataramarao SH, Agarwal R, Duseja A, Chawla Y. Diagnosis and prognostic significance of minimal hepatic encephalopathy in patients with cirrhosis of liver. *Dig Dis Sci.* 2010;55:2381-90
42. Noor MT, Lal A, Kochhar R, Singhal M, Sidhu GS, Srinivasan R, Rawat A, Dutta U, Dhiman RK, Chawla YK, Singh K. Autoimmune pancreatitis: a report from India. *JOP.* 2010;11:213-9
43. Sharma S, Sharma B, Singla B, Chawla YK, Chakraborti A, Saini N, Duseja A, Das A, Dhiman RK. Clinical significance of genotypes and precore/basal core promoter mutations in HBV related chronic liver disease patients in North India. *Dig Dis Sci.* 2010;55:794-802
44. Aggarwal N, Chopra S, Raveendran A, Suri V, Dhiman RK, Chawla yK. Extra hepatic portal vein obstruction and pregnancy outcome : largest reported, experience. *J Obstet Gynaecol Res.* 2011 Mar 6.
45. Sodhi KS, Saxena AK, Khandelwal N, Dhiman RK. Giant paraumbilical veins in Cruveilhier-Baumgarten syndrome. *Gastrointest Endosc.* 2010 UG; 72 (2) : 435-6.
46. Taneja S, Kalra N, Duseja A, Dhiman RK. Noncirrhotic portal portal fibrosis and abdominal varices. *Liver Int.* 2010; 30: 715-7.
47. Saikia UN, Sharma N, Duseja A, Bhalla A, Joshi K. Anaplastic large cell lymphoma presenting as acute liver failure : A report of two cases with of literature. *Ann Hepatol.* 2010; 9: 457-61.
48. Sachdeva A, Bhalla A, Sood A, Duseja A, Gupta V. The effect of sedation During upper gastrointestinal endoscopy. *Saudi J Gastroenterol* 2010; 16: 280-4.

National Publications

4. Duseja A. Nonalcoholic fatty liver disease in India - a lot done, yet more required! *Indian J Gastroenterol.* 2010 Nov;29(6):217-25.

5. Sarma S, Sharma B, Chawla YK, Kapil S, Singla B, Kalra N, Behera A, Duseja A, Dhiman RK. Comparison of 7 staging systems in north Indian cohort of hepatocellular carcinoma. *Tropical Gastroenterology* 2010;31(4):271–278.

21. Chawla Y, Duseja A, Dhiman RK. Review article: the modern management of portal vein thrombosis. *Aliment Pharmacol Ther.* 2009 ;30 :881-94.
22. Duseja A, Chawla Y. Treatment of HCV cirrhosis--simple or not quite so? *Trop Gastroenterol* 2009; 30:183-85.
23. Duseja A, Dhiman RK, Chawla Y, Thumburu KK, Kumar A, Das A, Bhadada S, Bhansali A. Insulin resistance is common in patients with predominantly genotype 3 chronic hepatitis C. *Dig Dis Sci* 2009 ;54:1778-82.
24. Duseja A, Das A, Chawla YK, Bhansali A, Sakhuja V. Clinicopathological conference: fibrosing cholestatic hepatitis presenting as subacute hepatic failure in a non-transplant patient. *Dig Dis Sci* 2009 ;54: 2341-45.
25. Gupta V, Singh V, Kalra N, Vaiphei K. Pancreas sparing resection for giant hamartoma of Brunner's glands *JOP* 2009; 10:196-99.
26. Kiran M, Chawla YK, Kaur J. Methylation profiling of tumor suppressor genes and oncogenes in hepatitis virus-related hepatocellular carcinoma in northern India. *Cancer Genet Cytogenet.* 2009; 195:112-19.
27. Kiran M, Chawla YK, Jain M, Kaur J. Haplotypes of microsomal epoxide hydrolase and x-ray cross-complementing group 1 genes in Indian hepatocellular carcinoma patients. *DNA. Cell Biol* 2009; 28:573-77.
28. Kiran M, Saxena R, Chawla YK, Kaur J. Polymorphism of DNA repair gene XRCC1 and hepatitis-related hepatocellular carcinoma risk in Indian population. *Mol Cell Biochem* 2009 ;327:7-13.
29. Noor MT, Lal A, Kochhar R, Singhal M, Sidhu GS, Srinivasan R, Rawat A, Dutta U, Dhiman RK, Chawla YK, Singh K. Autoimmune pancreatitis: a report from India. *JOP* 2010; 11: 213-19.

30. Sharma S, Sharma B, Singla B, Chawla YK, Chakraborti A, Saini N, Duseja A, Das A, Dhiman RK. Clinical significance of genotypes and precore/basal core promoter mutations in HBV related chronic liver disease patients in North India. *Dig Dis Sci* 2010; 55: 794-802.
31. Sarin SK, Kumar A, Almeida JA, Chawla YK, Fan ST et al. Acute-on-chronic liver failure: consensus recommendations of the Asian Pacific Association for the study of the liver (APASL). *Hepatol Int.* 2009 ;3:269-82.
32. Shiha G, Sarin SK, Ibrahim AE, Chawla YK, Omata M et al. Jury of the APASL Consensus Development Meeting 29 January 2008 on Liver Fibrosis With Without Hepatitis B or C. Liver fibrosis: consensus recommendations of the Asian Pacific Association for the Study of the Liver (APASL). *Hepatol Int.* 2009; 3:323-33.
33. Saini N, Srinivasan R, Chawla Y, Sharma S, Chakraborti A, Rajwanshi A. Telomerase activity, telomere length and human telomerase reverse transcriptase expression in hepatocellular carcinoma is independent of hepatitis virus status. *Liver Int* 2009;29:1162-70
34. Sharma A, Chakraborti A, Das A, Dhiman RK, Chawla Y. Elevation of interleukin-18 in chronic hepatitis C: implications for hepatitis C virus pathogenesis. *Immunology* 2009;128:514-22.
35. Singh V, Bhalla A, Sharma N, Dheerendra PC, Agarwal R, Mahi SK.. Nasobiliary drainage in acute cholestatic hepatitis with pruritus. *Dig Liver Dis* 2009 ;41:442-45.

36. Singh V, Singh G, Gupta V, Gupta R, Kapoor R. Contrast-free air cholangiography-assisted unilateral plastic stenting in malignant hilar biliary obstruction. Hepatobiliary Pancreat Dis Int 2010 ;9:88-92.
37. Sharma N, Sharma A, Varma S, Lal A, Singh V. Amoebic liver abscess in the medical emergency of a North Indian hospital. BMC Res Notes 2010; 25:21.
38. Taneja S, Kalra N, Duseja A, Dhiman RK. Noncirrhotic portal fibrosis and abdominal varices. Liver Int 2010;30:715-17.
39. Vermani N, Kang M, Khandelwal N, Singh P, Chawla YK. MR cholangiopancreatographic demonstration of biliary tract abnormalities in AIDS cholangiopathy: report of two cases. Clin Radiol . 2009 ;64:335-38.
40. Virmani V, Khandelwal N, Kang M, Gulati M, Chawla Y. MDCT venography in the evaluation of inferior vena cava in Budd-Chiari syndrome. Indian J Gastroenterol. 2009;28:17-23.

(Awards and Honours)

Part I

Dr. R.K. Dhiman was elected executive member of prestigious international body – ISHEN for year 2008-2011.

Departmental highlights

Part II- (Highlights)

19th Annual Conference of the Indian National Association for the Study of Liver (INASL) in association with International Liver Transplant (ILTS), INASL Liver Meeting – 2011 was

organized by the Department of Hepatology, Postgraduate Institute of Medical Education and Research, Chandigarh at Chandigarh on 25th to 27th March 2011.

Research highlights

Part – III

ANNEXURE

List of Visiting Professors

1. Prof. Rajan Saxena, Head of GI Surgery, SGPGI, Lucknow on 8-9 September 2010.

Dr. Daisy Sahni
Additional Professor & Head
and Co-Editor, Annual Report
Department of Anatomy
PGIMER, Chandigarh

Subject: Resubmission of 43rd Annual Report of PGIMER, Chandigarh for the year 2009-10.

Dear Dr. Sahni,

Please refer to your letter No.2K10/6681 dated 01.09.2010. I am resubmitting the 43rd Annual Report with CD for the year 2009-10 from the Department of Hepatology.

Thanking you,

Yours sincerely,

Y.Chawla

Encl: Annual Report with CD

Annual Report 2010-11;

Dr RK Dhiman, Professor of Hepatology

Academic Activities

Dr R K Dhiman has become Fellow of National Academy of Medical sciences (FAMS) and received the degree at the convocation held at Government Medical College, Patiala on October 31, 2010. He became Editor-in-Chief of *Journal of Clinical and Experimental Hepatology*. He has also been elected as a member to the Executive Committee of prestigious International body – International Society of Hepatic Encephalopathy and Nitrogen Metabolism (ISHEN) in 2010. He organized 19th Annual Conference of the Indian national association for the Study of the liver (INASL) in association with International Liver Transplant Society (ILTS) at PGIMER, Chandigarh from March 25 to March 27, 2011.

Dr Dhiman was invited to deliver a talk on “Cerebral edema in cirrhosis” at the 14th ISHEN symposium held at Val David, Canada from September 14-18, 2010. Dr Sunil Taneja, a DM student, presented his thesis work entitled “Usefulness of Inhibitory Control Test for the Diagnosis of Minimal Hepatic Encephalopathy” and received the Travel Fellowship. Mr Kiran K Thumburu, a PhD student, presented his thesis work entitled “Alterations in expression of genes coding for key astrocytic proteins in frontal cortex of autopsied brain tissues of patients with ALF and of patients with liver cirrhosis and HE” and received the Travel Fellowship for the same. He was a panelist in Symposium on Hepatitis B virus management at UPISGCON 2010 held in Agra on 25th – 26th September 2010. He delivered a talk on “Chronic hepatitis C: How do I treat?” in Gastroenterology and Liver Forum, Chandigarh in November 2010. He was invited to deliver a talk on “Care of a patient with an end-stage liver disease” at the Physicians forum at Jalandhar in July 2010. He delivered a lecture on “Prognostic markers in acute liver failure – Indian scenario” in a single theme INASL meeting on Acute Liver Failure held on 18th and 19th December 2010 at the Institute of Digestive & Hepatobiliary Sciences, Delhi-NCR (Gurgaon). He was guide and co-author in the paper ‘Inhibitory Control Test for the Detection of Minimal Hepatic Encephalopathy in Patients with Cirrhosis of Liver’ which received the first prize in the 19th

Annual Conference of the Indian National association for the study of Liver held at PGIMER, Chandigarh in March, 2011.

Research Completed During the Year

3. FIRST DEMONSTRATION OF ALTERED EXPRESSION OF GENES CODING FOR KEY CNS PROTEINS INVOLVED IN NEURONAL EXCITABILITY AND BRAIN EDEMA IN PATIENTS WITH ACUTE LIVER FAILURE

Encephalopathy as well as brain edema and its sequelae (intracranial hypertension, brain herniation) remain major CNS complications of acute liver failure (ALF), the mechanisms responsible for which have not been identified. Studies in animal models of ALF resulting from hepatic devascularization or toxic liver injury, as well as in cultured astrocytes exposed to pathophysiological relevant concentrations of ammonia, reveal significant losses in expression of genes coding for both the astrocytic glial fibrillary acid protein (GFAP), a major component of the glial filament network and the astrocytic transporter proteins EAAT-1 and EAAT-2 whose role is to remove excess of glutamate, the principal excitatory neurotransmitter of the CNS. However, there is no evidence available to date to suggest that these alterations occur in patients with ALF. In order to address this issue, dissected samples of cerebral cortex were obtained at autopsy from 8 patients with ALF due either to viral hepatitis or toxic liver injury and from 7 patients with no evidence of liver disease or other neurological disorders matched for gender and post-mortem delay intervals. Expression of GFAP, EAAT-1 and EAAT-2 mRNAs was investigated by real-time PCR and appropriate molecular probes and protein expression was assessed using both immunoblotting (western) techniques as well as immunohistochemistry using commercially-available polyclonal antibodies. Expression of GFAP at both the mRNA and protein levels was significantly decreased in frontal cortex of ALF patients ($p < 0.001$ and $p < 0.0014$, respectively) compared to control material. On the other hand, loss of EAAT-2 protein in ALF ($p < 0.002$) samples was found to be post-translational in nature. EAAT-1 protein remained within normal limits. Immunohistochemical analysis confirmed that the losses of GFAP and EAAT-2 were uniquely astrocytic in localization in all cases. These findings provide the first direct evidence for selective alterations in expression of genes coding for key astrocytic proteins

implicated in CNS excitability and for brain edema in human ALF and underline the important role of the astrocyte in the pathogenesis of these CNS complications.

4. DIAGNOSTIC ACCURACY OF INHIBITORY CONTROL TEST FOR THE DETECTION OF MINIMAL HEPATIC ENCEPHALOPATHY IN PATIENTS WITH CIRRHOSIS OF LIVER

Minimal hepatic encephalopathy (MHE) has significant impact on future clinical outcomes, such as occurrence of overt HE (OHE) and survival in patients of cirrhosis. In the absence of 'gold standard', psychometric hepatic encephalopathy score (PHES) is widely used for the diagnosis of MHE. This cross sectional and prospective study was carried out to determine the usefulness of inhibitory control test (ICT) for the diagnosis of MHE. One-hundred-two patients with cirrhosis and without a history of OHE were subjected to PHES and ICT. MHE was diagnosed when the PHES was ≤ 5 . Cut-off value of ICT was considered altered when the numbers of ICT lures were more than 14. Forty-one (40.2%) patients had MHE. ICT had 78 % sensitivity and 65.6% specificity and an area-under-the-curve value of [0.735 (95% CI=0.632-0.830)] for the diagnosis of MHE. In patients with cirrhosis, ICT lures did not correlate with severity of liver disease as measured by CTP score ($r=0.044, P=0.658$) and MELD score ($r=0.176, P=0.077$). ICT does not have prognostic value on survival; 8(19.5%) patients died among those who had altered PHES compared to 2(3.3%) patients who did not have altered PHES ($P=0.013$), while 6(11.3%) patients died among those who had altered ICT compared to 4(8.2%) patients who did not have altered ICT ($P=0.74$). The ICT provides cognitive measures, which are insufficient to the recommended diagnostic standards for cognitive investigation of MHE. Hence the ICT is not useful for the diagnosis of MHE.

5. COMPARISON OF CLINICAL PROGNOSTIC INDICATORS WITH MODEL FOR END-STAGE LIVER DISEASE (MELD) AND KING'S COLLEGE HOSPITAL CRITERIA FOR MORTALITY PREDICTION IN ACUTE LIVER FAILURE (ALF)

In a retrospective study we showed clinical prognostic indicators (CPI) were better than King's College Hospital (KCH) criteria and Model for End Stage Liver Disease (MELD) score to predict mortality in patients with acute liver failure (ALF). The aims of the present study were to validate CPI and to compare CPI with MELD and KCH criteria. A total of 86

patients, (mean age 26.8(10.9) years with ALF due to acute viral hepatitis were prospectively included into the study. Hepatitis E was the most common etiology present in 31(36%) patients followed by hepatitis A and hepatitis B in 17(19.7%) each. A total of 28 (33.5%) patients survived. To predict mortality; area under curve (95% CI) was better for CPI [.754 (.641-.867)] than MELD [.673 (.546-.800)] and KCH criteria [.620 (.501-.739)]. In conclusion, MELD and KCH criteria are not as useful as CPI in predicting adverse outcome in patients with ALF due to acute viral hepatitis.

Research in Progress

1. Alterations in gene expressions coding for key Astrocytic and neuronal proteins in patients who have died from acute liver failure or chronic liver failure associated with hepatic encephalopathy. **(ICMR)**
2. To study the protective effect of Nrf2 gene against oxidative stress and inflammation in frontal cortex and cerebellum regions of brain and blood in acute hyperammonemic rats **(Submitted to ICMR for funding)**
3. Supplementation with a probiotic preparation, VSL#3 as a support pharmaceutical therapy in cirrhotic patients for the treatment of minimal hepatic encephalopathy (MHE); A double-blind, randomized, placebo controlled study **(CD Pharma, N Delhi)**
4. Secondary prophylaxis of hepatic encephalopathy: A double blind, randomized, placebo controlled study with supplementation with a probiotic preparation. **(CD Pharma, N Delhi)**
5. Comparison of ablative therapies in hepatocellular carcinoma. **(ICMR)**

Papers Published

1. Dhiman RK, Chowdhry N, Chawla YK. Has the time come for cyanoacrylate injection to become the standard-of-care for gastric varices? Trop Gastroenterol. 2010;3:141-4.
2. Varma S, Menon MC, Garg A, Malhotra P, Sharma A, Chawla YK, Dhiman RK. Hepatitis C virus infection among patients with non-Hodgkin's lymphoma in northern India. Hepatol Int. 2011;5:688-92.

3. Aggarwal N, Chopra S, Raveendran A, Suri V, Dhiman RK, Chawla YK. Extra-hepatic portal vein obstruction and pregnancy outcome: Largest reported experience. *J Obstet Gynaecol Res.* 2011;37:575-80.
4. Menachery J, Chawla Y, Duseja A, Dhiman RK, Kalra N, Vankar S. Retroduodenal perforation without sphincterotomy: a case report. *Dig Dis Sci.* 2011;56:610-1.
5. Sharma B, Srinivasan R, Chawla YK, Kapil S, Saini N, Singla B, Chakraborty A, Kalra N, Duseja A, Dhiman RK. Clinical utility of prothrombin induced by vitamin K absence in the detection of hepatocellular carcinoma in Indian population. *Hepatol Int.* 2010;4:569-76.
6. Duseja A, Sharma B, Kumar A, Kapil S, Das A, Dhiman RK, Chawla YK. Nonalcoholic fatty liver in a developing country is responsible for significant liver disease. *Hepatology.* 2010 ;52:2248-9.
7. Duseja A, Chawla YK, Dhiman RK, Kumar A, Choudhary N, Taneja S. Non-hepatic insults are common acute precipitants in patients with acute on chronic liver failure (ACLF). *Dig Dis Sci.* 2010;55:3188-92.
8. Dhiman RK, Saraswat VA, Sharma BK, Sarin SK, Chawla YK, Butterworth R, Duseja A, Aggarwal R, Amarapurkar D, Sharma P, Madan K, Shah S, Seth AK, Gupta RK, Koshy A, Rai RR, Dilawari JB, Mishra SP, Acharya SK; Indian National Association for Study of the Liver. Minimal hepatic encephalopathy: consensus statement of a working party of the Indian National Association for Study of the Liver. *J Gastroenterol Hepatol.* 2010;25:1029-41.
9. Aggarwal N, Chopra S, Suri V, Sikka P, Dhiman RK, Chawla Y. Pregnancy outcome in women with autoimmune hepatitis. *Arch Gynecol Obstet.* 2011;284:19-23.
10. Sharma M, Babu CS, Dhiman RK, Chawla Y. Induced hypotension in the management of acute hemobilia during therapeutic ERCP in a patient with portal biliopathy (with videos). *Gastrointest Endosc.* 2010;72:1317-9.
11. Sodhi KS, Saxena AK, Khandelwal N, Dhiman RK. Giant paraumbilical veins in Cruveilhier-Baumgarten syndrome. *Gastrointest Endosc.* 2010;72:435-6; discussion 436.
12. Dhiman RK, Kurmi R, Thumburu KK, Venkataramarao SH, Agarwal R, Duseja A, Chawla Y. Diagnosis and prognostic significance of minimal hepatic encephalopathy in patients with cirrhosis of liver. *Dig Dis Sci.* 2010;55:2381-90.

13. Noor MT, Lal A, Kochhar R, Singhal M, Sidhu GS, Srinivasan R, Rawat A, Dutta U, Dhiman RK, Chawla YK, Singh K. Autoimmune pancreatitis: a report from India. *JOP*. 2010;1:213-9.
14. Taneja S, Kalra N, Duseja A, Dhiman RK. Noncirrhotic portal fibrosis and abdominal varices. *Liver Int*. 2010;30:715-7.
15. Taneja S, Kalra N, Dhiman RK, Chawla YK. An abnormal portal vein. *Liver Int*. 2011;31(1):65.

Research highlights

Part – I

Our study on human brains in patients with acute liver failure provides the first direct evidence for selective alterations in expression of genes coding for key astrocytic proteins implicated in CNS excitability and for brain edema in human ALF and underline the important role of the astrocyte in the pathogenesis of these CNS complications. Inhibitory control test provides cognitive measures, which are insufficient to the recommended diagnostic standards for cognitive investigation of MHE. Hence the ICT is not useful for the diagnosis of MHE. Clinical prognostic indicators (CPI) developed at PGIMER are better than King's College Hospital (KCH) criteria and Model for End Stage Liver Disease (MELD) in predicting adverse outcome in patients with acute liver failure due to acute viral hepatitis.

Departmental highlights

Part II- (Highlights)

The department organized the 19th Annual Conference of the Indian National association for the study of liver (INASL) at PGIMER, Chandigarh on March 25-27th, 2011. Papers from the Department bagged both the first and second prizes in the plenary session of the conference. Dr RK Dhiman became the Editor-in-Chief of *Journal of Clinical and Experimental Hepatology*. Dr RK Dhiman has been awarded the fellowship of National Academy of Medical sciences

(FAMS). Dr Sunil Taneja, a DM student, received first prize in the Plenary session of 19th annual conference of the Indian national association for the Study of the liver (INASL)

Publications : (Annexure)

International Publications

49. Rajekar H, Chawla Y. Terlipressin in hepatorenal syndrome: Evidence for present indications. *J Gastroenterol Hepatol.* 2011 Jan;26 Suppl 1:109-14
50. Taneja S, Kalra N, Dhiman RK, Chawla YK. An abnormal portal vein. *Liver Int.* 2011 Jan;31(1):65
51. Menachery J, Chawla Y, Duseja A, Dhiman RK, Kalra N, Vankar S. Retroduodenal Perforation Without Sphincterotomy: A Case Report. *Dig Dis Sci.* 2011; 56: 610-1.
52. Justa S, Minz RW, Minz M, Sharma A, Anand S, Das A, Chawla YK, Sakhuja VK. Serial measurements of hepatitis C viral load by real-time polymerase chain reaction among recipients of living-donor renal transplants: a short-term follow-up study from a single center. *Transplant Proc.* 2010; 42:3568-73.
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54. Duggal R, Garg M, Kalra N, Srinivasan R, Chawla Y. Spleen metastasis from hepatocellular carcinoma: report of a case with diagnosis by fine needle aspiration cytology. *Acta Cytol.* 2010;54(5 Suppl):783-6
55. Omata M, Lesmana LA, Tateishi R, Chen PJ, Lin SM, Yoshida H, Kudo M, Lee JM, Choi BI, Poon RT, Shiina S, Cheng AL, Jia JD, Obi S, Han KH, Jafri W, Chow P, Lim SG, Chawla YK, Budihusodo U, Gani RA, Lesmana CR, Putranto TA, Liaw YF, Sarin SK. Asian Pacific Association for the Study of the Liver consensus recommendations on hepatocellular carcinoma. *Hepatol Int.* 2010 ;4:439-74

56. Duseja A, Sharma B, Kumar A, Kapil S, Das A, Dhiman RK, Chawla YK. Nonalcoholic fatty liver in a developing country is responsible for significant liver disease. *Hepatology*. 2010;52:2248-9
57. Duseja A, Chawla YK, Dhiman RK, Kumar A, Choudhary N, Taneja S. Non-hepatic insults are common acute precipitants in patients with acute on chronic liver failure (ACLF). *Dig Dis Sci*. 2010;55:3188-92.
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60. Dhiman RK, Saraswat VA, Sharma BK, Sarin SK, Chawla YK, Butterworth R, Duseja A, Aggarwal R, Amarapurkar D, Sharma P, Madan K, Shah S, Seth AK, Gupta RK, Koshy A, Rai RR, Dilawari JB, Mishra SP, Acharya SK; Indian National Association for Study of the Liver. Minimal hepatic encephalopathy: consensus statement of a working party of the Indian National Association for Study of the Liver. *J Gastroenterol Hepatol*. 2010;25:1029-41
61. Aggarwal N, Chopra S, Suri V, Sikka P, Dhiman RK, Chawla Y. Pregnancy outcome in women with autoimmune hepatitis. *Arch Gynecol Obstet*. 2010 Jun 25
62. Sharma M, Ramesh Babu CS, Dhiman RK, Chawla Y. Induced hypotension in the management of acute hemobilia during therapeutic ERCP in a patient with portal biliopathy (with videos). *Gastrointest Endosc*. 2010;72:1317-9
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66. Sharma S, Sharma B, Singla B, Chawla YK, Chakraborti A, Saini N, Duseja A, Das A, Dhiman RK. Clinical significance of genotypes and precore/basal core promoter mutations in HBV related chronic liver disease patients in North India. Dig Dis Sci. 2010;55:794-802
67. Aggarwal N, Chopra S, Raveendran A, Suri V, Dhiman RK, Chawla yK. Extra hepatic portal vein obstruction and pregnancy outcome : largest reported, experience. J Obstet Gynaecol Res. 2011 Mar 6.
68. Sodhi KS, Saxena AK, Khandelwal N, Dhiman RK. Giant paraumbilical veins in Cruveilhier-Baumgarten syndrome. Gastrointest Endosc. 2010 UG; 72 (2) : 435-6.
69. Taneja S, Kalra N, Duseja A, Dhiman RK. Noncirrhotic portal portal fibrosis and abdominal varices. Liver Int. 2010; 30: 715-7.
70. Saikia UN, Sharma N, Duseja A, Bhalla A, Joshi K. Anaplastic large cell lymphoma presenting as acute liver failure : A report of two cases with of literature. Ann Hepatol. 2010; 9: 457-61.
71. Sachdeva A, Bhalla A, Sood A, Duseja A, Gupta V. The effect of sedation During upper gastrointestinal endoscopy. Saudi J Gastroenterol 2010; 16: 280-4.

National Publications

6. Duseja A. Nonalcoholic fatty liver disease in India - a lot done, yet more required! Indian J Gastroenterol. 2010 29: 217-25.
7. Sarma S, Sharma B, Chawla YK, Kapil S, Singla B, Kalra N, Behera A, Duseja A, Dhiman RK. Comparison of 7 staging systems in north Indian cohort of hepatocellular carcinoma. Tropical Gastroenterology 2010;31(4):271–278.

Dr.Virendra Singh

Academic activities and awards

1. Member,Editorial Board of *World Journal of Gastrointestinal Pathophysiology*.
2. Delivered a guest lecture on “role of endoscopy in Carcinoma Gall Bladder” ISGCON of Bihar and Jharkhand chapter at Gaya ON 2nd May, 2010.

Conferences attended

1. Attended APDW Conference held at Kuala Lumpur (Malaysia) in September 2010.
2. Attended Annual Conference of Indian Society of Gastroenterology , held at Hyderabad in October 2010.

Research in progress

1. G-CSF in alcoholic hepatitis and FHF.
2. Midodrine and clonidine in refractory ascites in cirrhosis.
3. Noradrenaline and terlipressin in hepatorenal syndrome.
4. Contrast-free air cholangiography-assisted unilateral stenting in malignant hilar biliary obstruction.

Papers published

1. **Singh V**, Singh G, Verma GR, Gupta R.Endoscopic management of postcholecystectomy biliary leaks. *Hepatobiliary Pancreat Dis Int* 2010 ;9:409-413.

Chapter in Book

Treatment of Hepatitis C in “The Liver Annual-2010”-An INASL publication.

