**PP-059** Rifaximin salvage therapy for metronidazole-resistant *Clostridium difficile* infection – a prospective pilot trial

P. Patrick Basu1,2, Amreen Dinani1, Krishna Rayapudi3, Tommy Pacana3, Niraj James1. 1New York Hospital Queens, Flushing, New York, USA; 2Columbia University College of Physicians and Surgeons, New York, New York, USA; 3Forest Hills Hospital, Forest Hills, New York, USA

**Background:** C. difficile infection (CDI) is a recent epidemic in the United States affecting all age groups. Resistance to metronidazole has become a clinical challenge that warrants the use of salvage therapy. We evaluated the efficacy of rifaximin in metronidazole-resistant CDI in the community.

**Methods:** Twenty-five patients with CDI were recruited. Age range: 48-65 years; male: 13, female: 12; community-acquired CDI-13, nursing home-acquired CDI-12; mean white blood cell count-14,000/mm3, mean creatinine-0.9 mg/dL. All had mild-to-moderate CDI (5-10 bowel movements a day). Within the last 3 months, all were exposed to antibiotics, 18 (72%) to proton pump inhibitors, and 12 (48%) hospitalized. All CDI was resistant to metronidazole. All received oral rifaximin 400 mg three times daily for 14 days after stopping metronidazole. After 56 days, stool was tested for C difficile using PCR (Quest Diagnostics, Teterboro, NJ) to assess the efficacy of treatment. Exclusions included sepsis, abdominal distention, leukocyte count >20,000/mm3, human immunodeficiency virus infection, multi-organ failure, renal failure, recent exposure to vancomycin or rifampicin, recent organ transplant recipients, patients on ventilator support, and receiving chemotherapy.

**Results:** Sixteen (64%) patients eradicated the infection (negative PCR after 56 days). Three (12%) aborted therapy because of abdominal distention. In a per-protocol analysis, 72.7% of patients responded to rifaximin salvage therapy. Oral rifaximin was well tolerated.

**Conclusion:** Rifaximin may be considered in the treatment of mild-to-moderate metronidazole resistant CDI. Larger randomized trials might support these preliminary findings.

**PP-060** Prevalence and antimicrobial susceptibility of *Campylobacter* spp. isolated from beef and raw chicken in Tehran, Iran

Maryam Sanaie, Mohammad Hamidian*, Masoumeh Azimi-Rad, Mehdi Bolfon, Mohammad Reza Zali. The Research Center for Gastroenterology and Liver Disease, Shaheed Beheshti University of Medical Sciences, Tehran, Iran

**Background:** *Campylobacter* spp. resistant to commonly used antimicrobials constitute one of the leading causes of bacterial gastrointestinal worldwide. The current study was done to determine prevalence and antimicrobial resistance of *Campylobacter* spp. from retailers in Tehran.

**Methods:** During 2007-2008, samples of beef and raw chicken were randomly selected from retailers in Tehran and cultured and identified according to biochemical and microbiological standard methods. Antimicrobial susceptibility testing of the isolates was done by Kirby–Bauer method for ampicillin, neomycin, streptomycin, nalidixic acid, gentamicin, tetracycline, spectinomycin, chloramphenicol, and ciprofloxacin. Molecular identification of the isolated was done using PCR by specific primers for *C. jejuni* and aspartokinase of *C. coli* as previously described.

**Results:** A total of 378 samples obtained of which 188 (49.7%) were raw chicken and 190 (50.2%) were beef. *Campylobacter* spp. were collected from 112 (29.6%) of the cultured samples. Of these 75% were *C. Jejuni* and 25% *C. coli*. The majority of the isolates (71.6%) were resistant to nalidixic acid while none of them showed resistance to gentamicin and imipenem. Resistance to ciprofloxacin, tetracycline ampicillin and neomycin were 47.4%, 27.4%, 23.2% and 3.2% respectively and 2.1% of the isolates were resistant to streptomycin and spectinomycin.

**Conclusion:** The results showed a high prevalence of resistance to nalidixic acid and ciprofloxacin emphasizing to continuous resistance monitoring of *Campylobacter* spp. in the country. Because of the rapid dissemination of resistance genes and antibiotic pressure, a prudent use of antibiotics is imperative to preserve its usefulness in the country.

**Poster Presentation – Hepatitis B**

**PP-061** Viral factors have little or no influence on liver injury in CHB: observation from Bangladesh

Mamun Mahtab*, Salimur Rahman1,2, Mobin Khan1, Mohammad Kamal1, Rakesh Aggarwal3, Sirish Kumar4, Fazle Akbar5, 1Bangabandhu Sheikh Mujib Medical University; 2Viral Hepatitis Foundation Bangladesh; 3Sanjay Gandhi Postgraduate Institute of Medical Sciences; 4Toshiba General Hospital

**Background:** It is assumed that patients with CHB with high DNA exhibit increased liver damage and treatment guidelines emphasize on reducing viral load. These observations are from developed countries, but little is known about ~80% HBsAg carriers living in developing nations. In this study, we addressed this issue.

**Methods:** 402 Bangladeshi CHB patients were enrolled and tested for HBV serologic markers and ALT. All underwent liver biopsy. HBV genotyping was done in 45.

**Result:** High HBV DNA (>100,000 copies/ml) was detected in 64.4%. 43.5% were HBeAg +ve and 56.5% HBeAg -ve. HAI-NI >3 was in 62.9%. HBeAg +ve and 49.8% HBeAg -ve respectively. In high HBV DNA, 59.8% had higher HAI-NI, opposed to 45.5% with low DNA. Much more with low DNA had considerable hepatic fibrosis compared to high DNA. However difference in HAI-F was not significant. Genotyping was done in 45. Genotype C (38%) and D (49%) were predominant. Comparison between HBV genotype, DNA load and liver damage could not be done because genotyping was done in only 45.

**Conclusion:** Correlation could not be established between viral load and liver damage in CHB in Bangladesh. Further study is needed to identify other factors influencing liver damage in CHB in developing nations. Our study may suggest the research direction for management of these cases.

**PP-062** Effects of methylprednisolone and tacrolimus on cccDNA replication of hepatitis B virus in HepG2.2.15 cell line

Weiping Zheng*, Hongli Song, Zhongyang Shen. Department of Organ Transplantation, Tianjin the First Central Hospital

**Aim:** The effect of Methylprednisolone (MP) and tacrolimus (FK506) on hepatitis B virus (HBV) replication was investigated, and level of cccDNA after MP and FK506 treatment was studied in order to provide clues to explore the effect of MP and FK506 on HBV replication.

**Methods:** MTT assay was used to evaluate the cytotoxicity of MP and FK506. The HBV replication level in HepG2.2.15 cell line was determined by an electrochemiluminescence analysis of hepatitis B surface antigens (HBsAg) and Hepatitis B e antigen (HBeAg) in culture supernatant, while the intracellular HBV cccDNA replication level was analyzed by real time polymerase chain reaction (RT-PCR).

**Results:** MTT method confirm the nontoxic concentrations of MP and FK506 were 0-500μg/ml. After the treatment of MP at the concentration of 0, 5, 10, 20, 50, 100, 250 and 500 μg/L, in comparison to the control group. MP was able to
inhibit the expression of HBsAg, HBeAg, and HBV DNA replication in vitro in a dose-dependent manner. A RT-PCR analysis indicated that the expression of cccDNA changed significantly in the MP treatment group compared to the control group and in a dose and time-dependent manner. FKS06 did not the same role in the levels of HBVDNA and cccDNA. However, FKS06 at different nontoxic contractions showed no significant inhibitory effect on the levels of HBsAg HBeAg and HBVDNA.

Conclusion: Our study identified MP does- and time-dependently inhibits the HBV replication in vitro, and found that cccDNA for this inhibitory effect. FKS06 does not exercise similar effects.

**PP-063**

**NOTCH 1 regulates FOXP3 regulatory T cells and deranged TGF-β signaling in progressive stages of hepatitis B infection**

Nirupama TrehanPati*, 1, Shikha Shrivastav 2, Dinesh Mani Tripathy 3, Sukriti Baveja 4, Ketki Dongre 5, Hissar Syed 6, Shiv Sarin 2, 1. Institute of Liver and Biliary Sciences, New Delhi, India; 2. G.B. Pant Hospital, New Delhi, India

**Objectives:** Notch receptors are implicated in modulating the differentiation of antigen specific T cells to regulatory T cells. TGF-β as a key mediator, acts synergistically with regulatory cells. Our objective was to study the expression of Notch 1, FOXP3 and TGF-β signaling in PBMCs, liver infiltrated lymphocytes in patients with HBV infection.

**Methods:** Patients with chronic hepatitis B (CHB) (n=10) (age 29.4±13.2 yr., M:F=8:2), HBV cirrhosis (n=8) (age 45.6±12 yr. M:F=2:1) and liver biopsies from normal liver (n=8) (age 49.3±3.8 yr. M:F=3:1) were studied. PBMCs and LIL were isolated from blood and liver tissues. Percentages of regulatory T cells with Notch expression were analyzed by FACS Analysis. mRNA expression of Notch1, HES1, Jagged1, TGF-β, STAT1, SMAD3 and SMAD4 genes was analyzed by quantitative RT-PCR in PBMCs, LIL and biopsies.

**Results:** There was a significantly higher co-expression of Notch1 and the percentages of NOTCH1/FOXP3 (50.4% vs. 3.72 and 2%) (p<0.05) in liver infiltrated lymphocytes of cirrhotic patients than peripheral blood. Expression of TGF-β, STAT1, SMAD3 and SMAD4 in cirrhotic LIL was significantly 2-3 folds lower than PBMCs. In chronic HBV biopsies, expression of TGF-β, STAT1, SMAD3 and SMAD4 was 4-6 folds higher than in normal liver biopsies.

**Conclusion:** We showed that higher expression of Notch1 and FOXP3 expression in liver infiltrated lymphocytes may have differentiated induced regulatory T cells. However, decreased expression of TGF-β and its downstream signaling molecules in LILs may be responsible for loss of its regulatory cells suppressive ability.

**PP-064**

**A tenofovir therapy HBV mathematical model for HBeAg negative and positive patient**

Man Li, Yongmei Su*. Applied Science School, University of Science and Technology Beijing, Beijing

**Background:** HBeAg negative and HBeAg positive patients are different in the HBV replication rate. Based on P.Marcellin et al's clinical data and the HBV infection dynamic model proposed by Nowak et al. we set up a Tenofovir therapy model for HBeAg negative and positive, which have good agreement with above clinical data.

**Methods:** A model of HBV is described by four variables: x, y, v, z represent uninfected cells, infected cells, free virus, and immune cells. The model include 10 parameters: λ, d, b, a, p, k, u, k2, k3, k4 where the meanings of λ, d, b, a, p, k, u are the same as those given in Nowak’s model, k2 represents the curative effect, k3, k4 are relevant to the immune, we choose λ, k, b, a, p, u, k3, k4 = 4.621e5, 6.9e-3, 6.508e-4, 6.9e-3, 0.058, 0.35, 0.95, 0.036]

For HBeAg positive and negative, we chose k=5, k2=4.85, and k=2, k2=1.98 respectively, which reflect the different HBV replication rate between HBeAg positive and negative patient.

**Results:** The simulation data of our model are qualitatively agreement with the HBeAg positive and negative clinical data during the treatment with Tenofovir.

**Conclusion:** The discrepancy between HBeAg negative and positive were reflected through different parameters by our model, which shows our model may possibly capture the dynamics of anti-HBV infection treatment with Tenofovir.

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**PP-065**

**Therapeutic effect of Ademetionine (Transmetil) for chronic cholestasis diseases**

Wen Xie*, Yan-Bin Wang, Wei-Ni Ou. Beijing Ditan Hospital

**Objective:** To evaluate the efficacy and safety of different dosage of Ademetionine (Transmetil) in different cholestasis diseases.

**Methods:** It’s a retrospective study, 56 cases who treated with Ademetionine (Transmetil) were assigned to 1g/d and 2g/d by the dosage they used. There is no statistic difference between the two groups in age, height, body weight, heart rate, blood pressure and sex ratio (P>0.05). The levels of ALT, AST, TBIL, DBIL, GGT and TBA before treated and 2 weeks after treated of both groups were observed.

**Results:** After treatment, the levels of ALT, AST, TBIL, DBIL, GGT and TBA were reduced significantly (p<0.001, 0.002, 0.029, 0.01, 0.002, 0.002 P<0.05) compared with those before treatment, but the reduced levels of ALT, AST and GGT had no marked difference between the two groups (p=0.055, 0.14, 0.774 P>0.05). And the reduced levels of TBIL, DBIL and TBA were significantly different between the two groups (p=0.025, 0.038, 0.039 P<0.05). No severe adverse reactions were found in both groups.

**Conclusions:** Ademetionine (Transmetil) has obvious effect on Cholestasis diseases, and the treatment of dosage 2g/d has more effective in reduce TBIL, DBIL and TBA than that of 1g/d. It’s safe in both dosage groups.

**PP-066**

**Effect of adefovir dipivoxil on HBcAg-specific cytotoxic T cells in patients with chronic hepatitis B**

Jie Yan1, Wen Xie*, 1, Yahui Lin 2, Xin Feng 1, BeiBei Wang 3, Jiang Xiao 1, Weini Ou 1, Yangbin Wang 1, Jun Cheng 1. Beijing Ditan Hospital; 2. Chinese Academy of Medical Sciences

**Background:** To study the effect of adefovir dipivoxil on HBcAg-specific cytotoxic T cells in patients with chronic hepatitis B (CHB).

**Methods:** Frequency of circulating HBcAg-specific cytotoxic T cells from 11 HLA-A2+ patients with chronic hepatitis B were studied longitudinally before and after adefovir dipivoxil therapy by HLA-A2/peptide tetramer staining.

**Results:** Frequencies of HBcAg-specific cytotoxic T cells were no significant differences between before and after adefovir dipivoxil therapy.

**Conclusion:** There is probably no effect effect of adefovir dipivoxil on HBcAg-specific cytotoxic T cells in patients with CHB.

**PP-067**

**Effects of interventional therapy for primary liver carcinoma on the liver function of patients**

Wei Ji *. Beijing You-an Hospital

**Background:** The effects of interventional therapy for hepato-