This finding will help to develop diagnostic tools that can be used to predict treatment response before interferon-based therapy. It also provides insights into the molecular mechanism of interferon resistance in HCV-infected patients.

**PP-142** The predictive value of viral response during treatment to sustained viral response obtaining in chronic hepatitis C personalized treatment programs

Ming-hui Li*, Yao Xie, Li-jun Chen, Guo-hua Qiu, Yao Lu, Dao-zhen Xu. Department of Liver Diseases, Ditan Hospital, Beijing, PR China

The antiviral effects of interferon in chronic hepatitis C is influenced by many factors, among which the personalized interferon and RBV dose, treatment course were the most important. The viral response during treatment was the composite expression of factors associated with treatment effects, and the very important predictive for sustained obtaining.

In this paper, the enrolled patients with chronic hepatitis C were given the intensive treatment doses of interferon and ribavirin according to their basic clinical condition. In the treatment of 0, 4, 12, 24 weeks, the end of treatment and 24 weeks after treatment stop, the serum HCV RNA were determined, and according the viral response on-treatment the individuation courses was given, and the value of viral responses, including rapid viral response, (RVR), defined serum HCV RNA undetectable at 4 week, and complete early viral response (cEVR), serum virus undetectable at 4 week, on-treatment was anylised predictive for SVR obtained. Given the personalized therapeutic program, 84.2% of patients obtained RVR, among which 90.7% obtained SVR. The RVR was not associated with HCV genotypes (χ²=6.00, p=0.112), but significantly with serum HCV RNA load baseline (t=2.15, p=0.034), which in RVR was ≤5.883±1.246 copies/ml, and Ig 6.502±0.693 copies/ml in non-RVR. The RVR rate (87.8%) of patients interferon-2a was higher than that of retreatment patients (65.0%) significantly in pegylated interferon treatment group (χ²=4.651, p=0.031). 92.4% (122/132) of patients obtained cEVR, those in pegylated interferon-2a 180mg, 135mg and standard interferon group were 90.5%, 95.0% and 90.4%, and the difference among the three groups was not significant difference (χ²=0.981, p = 0.640). The SVR rate of patients with cEVR was SVR 90.8% (108/119), which was significantly higher than that, 55.6% (5/9), of patients with no cEVR rate (Fisher’s exact test, p = 0.007). The cEVR rate between naïve and retreatment patients was not difference (χ²=1.993, p=0.158), which were 94.7% (90/95) and 85% (17/20) respectively, and the difference of cEVR rate between genotype 1 and non 1 group was not significance aslo (χ²=6.000, p=0.112), 91.22% (52/57) and 96.29% (26/27) respectively. This study showed that, RVR and cEVR were significantly related to SVR, cEVR and the SVR.

According to the clinical characteristics of patients, given intensive doses of interferon and RBV, adjusted drug dose timely, and extended treatment of HCV RNA-negative course based on patient response were important in chronic hepatitis C personalized treatment.

**PP-143** APOBEC3G/B/F mRNA levels in PBMC of HIV-infected patients and there correlation with CD4+ T cell counts

Zhenyan Wang*,1,2, Hongzhou Lu2. 1Shanghai Public Health Clinical Center; 2Fudan University

**Background:** Apolipoprotein B mRNA-editing enzyme, catalytic polypeptide-like 3G/B/F (hA3G/B/F) showed anti-HIV activity in vitro, though there correlation with HIV disease progression is not clear. Our aim is to quantitative investigate hA3G/B/F mRNA levels in HIV-infected patients, then analyze their correlation with CD4 counts.

**Methods:** Peripheral blood samples were collected from 21 HIV-infected subjects not taking antiretroviral therapy (ART) and 21 HIV-infected subjects receiving ART, and 10 HIV-uninfected controls. hA3G/B/F mRNA levels in PBMC were determined by real-time fluorescent quantitative PCR. Flow cytometry was used to detect CD4 counts.

**Results:** There was no correlation between hA3G/B/F mRNA levels and CD4 counts in either ART+ or ART- HIV-infected subjects. hA3G mRNA level in HIV-infected subjects was lower than that in HIV-uninfected controls (P<0.05), but no statistical difference between ART+ and ART- groups (P=0.05). However, significant difference were found in hA3B/F mRNA levels between the three groups (P<0.05): ART- HIV-infected subjects < ART+ HIV-infected subjects < HIV-uninfected controls. hA3G/B/F mRNA levels were positively correlated with one another in ART+ HIV-infected subjects and HIV-uninfected controls, while not in ART- HIV-infected subjects.

**Conclusion:** hA3G/B/F gene expression levels do not directly correlate with HIV-1 disease progression. Host hA3G/B/F expression levels tend to decrease after HIV-1 infection, and ART may elevate hA3B/F mRNA levels, but not for hA3G. The function of hA3 family proteins in anti-HIV infection needs further study.

**PP-144** Substitution treatment implementations in Ukraine – impact on HIV prevalence

Dmitry Metlitsky*. All-Ukrainian Network of PLWHAs

Substitution treatment is recognized as effective part of biomedical prevention and one of the main tools of HIV/AIDS epidemic control among IDU’s. ST admitted as essential choice for IDU if ones fail rehabilitation programs.

Although Ukraine has the highest HIV-prevalence in Eastern- Europe regions (large portion of vulnerable populations consists of IDU’s), ST implementation was under the major focus of donors (Global Fund, Sunrise, Clinton Foundation). By the reason ST was quit new activity for Ukraine vertical model of implementation — from center to regions were chosen. It meant that advocacy for needed decrees from Ministry of Health, drugs regulation authorities was made on the national level. Then a number of regional sites were opened.

In result regional medical authorities asked for help in meeting of requirement in ST sites, they started to participate in project competitions for sites financing, they realized advantages of new model of work with IDU’s. As conclusion it should be mentioned that central advocacy work saved time and made regional implementation of program much easier. As the second phase – regions begun plan their activities accordingly needs of the regions. Governmental authorities were satisfied with decreasing of HIV transmission among IDU, more social reliability of patients and lower mortality rate among them.

Statistic data is available.

**PP-145** p53 and mitochondrial toxicity induced by AZT

Dexi Chen*, Yu Sun, Yasong Wu, Hao Wu, Xinyue Chen. Beijing You An Hospital Capital Medica University

The mitochondrial toxicity of nucleoside reverse transcriptase inhibitors (NRTIs) is due to the inhibition of mitochondrial DNA (mtDNA) polymerase γ (Pol γ), resulting in a blockade of mtDNA replication and subsequent disruption of cellular energetics1. Previous study showed that p53 play a direct role through interaction with DNA Pol γ or mitochondrial transcription factor.
A (mtTFA) and indirect role via up-regulation of the p53R2 expression. Recently more than 6 kinds of P53 isoform have been reported and they played the different role in DNA repair pathways, cell-cycle checkpoints and cell apoptosis. P53 and its different p53 isoforms play what kind of role in mitochondrial toxicity induced by NRTIs is unclear. In this study, we identified the role of wild type p53 and its isoforms (N40P53 and N133P53) in mitochondrial toxicity induced by AZT and oxidative stress. In this study we treated the A549 p53+/+, H1299 N40 P53+/+, H1299 N133P53+/+ and H1299 P53−/− cell lines with 5 to 200 μM AZT for 12 hours for studying cell death and the expression of p53R2, p21 and bax via p53R2 (Bax, P21) pGL3-Luciferase reporter gene assay, real-time PCR and Western Blotting; treated cells with 30μM AZT for 5 weeks, 10 weeks and 1μM H2O2 for 1 hour/week to study the mtDNA mutation, mtDNA deletion and mitochondrial toxicity. The cells were treated with p53R2 interference RNA to study the p53R2 how regulated the DNA Pol γ capability.

The result showed that A549 p53+/+ cell death was more sensitive to high concentration of AZT. The increased cell death was detected from 120 μM of AZT and more that 80% cell were into apoptosis in 2000 μM AZT. But other three cell lines have strong tolerance to AZT toxicity. They are only less than 10% cell death in 2000 μM AZT. The results from report gene assay and real-time PCR assay suggested that wild type p53, N40 P53, N133P53 played different role in p53R2, p21 and Bax promoters. All of wild type and isofrom P53 up-regulated the p53R2 expression, but isoform P53 played a domain negative regulation in Bax expression. The p21 expression was co-stimulated by wild-type p53 and N40, N133P53. D-loop of mtDNA mutation and mtDNA quality assay showed that A549 p53+/+ cell has lower mtDNA mutation rate and almost no mtDNA loss following 5 weeks AZT stress. N40 P53, N133P53 cells have lower mtDNA mutation too, but mtDNA loss is significant higher than that in A549 P53 +/+ cells. H1299 P53 null cells has higher mtDNA mutation rate and mtDNA loss than that in wild-type P53 and N40 P53, N133P3 isoform cells. Conclusion: Both wild type and N40 P53, N133P3 isoform p53 play protect role in AZT induced mitochondrial toxicity. The P53R2 would be involved in the central molecular pathway of p53 reduced mtDNA mutation and mtDNA loss induced by AZT

**PP-146** Incidence and characterization of acute HIV-1 infection among high-risk self-identified men who have sex with men in Beijing, China

Xiaoie Huanga*, Haiying Li, Zhiying Liu, Caiping Guo, Yanqing Gao, Zaicun Li, Yan Fu, Tong Zhang, Dexi Chen, Xiaoning Xu, Hao Wu. Beijing YouAn Hospital, Capital Medical University

**Objective:** To investigate the HIV incidence and the baseline demographic data, clinical characteristics of acute HIV infections among self-identified men who have sex with men (MSM) population in Beijing.

**Methods:** From May 2007 to February 2009, a hospital-based cohort of HIV-uninfected MSM was established for a natural history study of HIV-1 infection. The cohort was followed every two months to determine HIV incidence by pooling nucleic acid testings (NAT) of third-generation enzyme immunoassay (EIA)-negative samples.

**Results:** After screening 2861 individuals, a hospital-based cohort of 1529 uninfected high-risk MSM was established. During 1147.575 person-years of follow-up, 8424 samples were screened for acute HIV infection by pooling nucleic acid testing (NAT) of third-generation enzyme immunoassay (EIA)-negative samples (n = 8221). HIV-prevalence at screening was 9.29% posing a risk of third-generation enzyme immunoassay (EIA)-negative samples.

**Conclusions:** HIV prevalence in MSM population is significantly greater than that in the general population, which reflects the current epidemic in Beijing and justifies prevention programs aimed at this group. This high-risk population may be suitable for future studies on acute HIV infection, HIV treatment, vaccine, and prevention of onward transmission strategies.

**PP-147** Liver injury in HIV-1-infected patients receiving non-nucleosides reverse transcriptase inhibitors-based antiretroviral therapy

Zaicun Li*, Lili Dai, Yanqing Gao, Haiying Li, Xiaoie Huang, Caiping Guo, Tong Zhang, Hao Wu. Clinical center for STDs and AIDS at Beijing Youan Hospital, Capital Medical University

**Objectives:** To study the features of liver injury in HIV-1-infected patients receiving non-nucleosides reverse transcriptase inhibitors-based antiretroviral therapy (ART).

**Methods:** 75 patients receiving non-nucleosides reverse transcriptase inhibitors-based ART were retrospectively studied. The patients were divided into 2 groups: liver injury group (n=45) and non-liver injury group (n=30). The features of liver injury were analysed. The prevalence of HBV and/or HCV, hepatotoxic drugs use and NVP or EFV use were compared between two groups.

**Results:** 45 (60%) patients, 31 (48.9%) males and 14 (31.1%) females, aged 12–52 years, averaged 39.95 years, experienced at least one episode of liver injury. 40 (53.3%) co-infected with HIV and/or HCV, 42 (56%) patients had concomitant use of antituberculosis drugs, 46 (61.3%) and 29 (38.7%) received regimen containing NVP or EFV, respectively. Grade 1 liver injury were observed in 26 (34.7%) patients, grade 2 in 16 (21.3%), grade 3 in 2 (2.7%) and grade 4 in 1 (1.3%), respectively. 3 (4%) patients discontinued ART due to liver injury. There were 29 (64.4%) patients coinfected with HBV and/or HCV, 32 (71.1%) received regimens containing NVP, and 30 (66.7%) had concomitant use of antituberculosis drugs in liver injury group, significantly higher than those in non-liver injury group [11 (36.7%), 14 (46.7%) and 12 (40%), respectively. P=0.018, 0.033, 0.023, respectively].

**Conclusions:** Liver injury in HIV-1-infected patients receiving non-nucleosides reverse transcriptase inhibitors-based antiretroviral therapy was mild to moderate, those who coinfected with HBV and/or HCV, had concomitant use of antituberculosis drugs or cotrimoxazole and received a regimen containing NVP were prone to liver injury.

**PP-148** Simultaneous disseminated mycobacterium avium complex (MAC) and pulmonary cryptococcosis in an AIDS patient: presentation of immune reconstitution inflammatory syndrome (IRIS) requiring corticosteroid therapy

Azadeh Nasseh*, Baya Omidnia, Ladan Ahmadi. Department of Medicine; Lenox Hill Hospital; New York, NY, USA

**Introduction:** Immune reconstitution syndrome, caused by restoration of the capacity to mount an inflammatory response, can lead to morbidity and mortality in HIV patients.

**Case description:** A 38 y/o presented with fever and weight loss. HIV test was positive and blood culture grew Cryptococcus Neofor mans. CD4 was 45 cells/ml and viral load (VL) 800,000 copies/ml. Chest CT revealed hilar lymphadenopathy and RLL lesion. Few weeks into treatment with Amphotericin B and subsequently Fluconazole, combination antiretroviral therapy (CART) was added to PCP and MAC prophylaxis. After 4 weeks, he presented with fever and cervical lymphadenopathy. CD4 was 322, VL 80,000. Bronchial washing showed Cryptococcus and MAC. Amphotericin B, Rifabutin, Ethambutol and Azithromycin were started. One month later fever and lymphadenopathy continued. Biopsy of a node showed necrotizing granuloma due to MAC. IRIS with Disseminated MAC was diagnosed and considering progressive