13th International Workshop on Co-infection HIV & Hepatitis
21 - 23 June 2017, Lisbon, Portugal

Abstracts

Oral Presentations
Abstract O_01

Relapse or reinfection of hepatitis C after direct acting antiviral treatment: unravelled by phylogenetic analysis. Results from the Spanish GEHEP-004 cohort

Cuypers L1, Pérez A2, Chueca N2, Aldamiz-Echevarría T3, Alados J4, Martínez-Sapina A5, Merino D5, Pineda J5, Téllez F5, Viciana P5, Salmerón F6, Rivero-Juarez A7, Vivancos M8, Hontaño V9, Vandamme A1, Garcia F2

1KU Leuven - University of Leuven, Department of Microbiology and Immunology, Rega Institute for Medical Research, Clinical and Epidemiological Virology, Leuven, Belgium, 2Clinical Microbiology Department, University Hospital San Cecilio Granada, Instituto de Investigación Ibs., Granada, Spain, 3Infectious Diseases Unit, Hospital Gregorio Marañón, Madrid, Spain, 4Clinical Microbiology, University Hospital Jerez, Cadiz, Spain, 5Clinical Microbiology, Hospital Miguel Servet, Zaragoza, Spain, 6Clinical Microbiology, Hospital Infanta Elena, Huelva, Spain, 7Infectious Diseases Unit, University Hospital de Valme, Sevilla, Spain, 8Clinical Microbiology, Hospital de la Linea, Cadiz, Spain, 9Clinical Microbiology, Hospital Virgen del Rocío, Sevilla, Spain, 10Hepatology Unit, University Hospital San Cecilio Granada, Instituto de Investigación Ibs., Granada, Spain, 11Clinical Microbiology, Hospital Reina Sofia, Cordoba, Spain, 12Clinical Microbiology, Hospital Ramón y Cajal, Madrid, Spain, 13Clinical Microbiology, University Hospital La Paz, Madrid, Spain, 14Center for Global Health and Tropical Medicine, Microbiology Unit, Institute for Hygiene and Tropical Medicine, University Nova de Lisboa, Lisbon, Portugal

Background: Despite high response rates associated to DAA treatment, no protective immunity is acquired, so patients that are cured after treatment can be infected with a new HCV strain, and therefore may be responsible for further transmission. Consequently, viral eradication may be hampered by high reinfection and transmission rates among patients with persistent risk behaviour. Distinguishing between virological relapse and reinfection is crucial to determine the true efficacy of current therapies and to define the most appropriate retreatment if needed.

Methods: The GEHEP-004 cohort includes approximately 300 patients failing to different DAA regimens from 42 Spanish centers. For 53 patients treated between 2014 and 2016, the virus was sampled at two time points, before start of therapy and at time of failure. Sequencing was performed for two or three regions (NS3 – NS5A – NS5B), depending on the DAA regimen administered. For each taxon, the ten most similar sequences were retrieved from public databases by the use of BLAST. Concatenated alignments were used to infer phylogenetic trees by neighbour-joining and maximum-likelihood algorithms, with the GTR gamma model and 1000 bootstrap replicates. When comparing strains before and after treatment in one patient, evidence of reinfection was defined as a difference in HCV genotype or subtype, or as a significantly different clustering in distant clades in the tree. Evidence of relapse was defined as significant clustering in the same clade, while no conclusion was drawn when clades were supported with a bootstrap <70%. Simplot was used to detect recombination.

Results: Genotype assignment by phylogenetic analysis revealed nine discordant cases (17.0%) with commercial assays at genotype and subtype level, while no recombinants were identified. At baseline, 41.5% of patients were determined to be infected with HCV1a, followed by HCV1b (24.5%), HCV4 (18.9%) and HCV3a (15.1%). Overall, 60.4% was co-infected with HIV. The large majority of patients for which the transmission route of infection was known, was classified as people who inject drugs (PWID) (78.6%), often co-infected with HIV (27/33) and half of them infected with HCV1a. Sexual transmission was observed in seven cases, of which five in HIV-positive men who have sex with men (MSM). Due to poor phylogenetic signal of single fragments, conclusions were only drawn for concatenated alignments. Overall, five patients were reinfected with a different HCV strain (4 PWID + 1 MSM), of which three with a different HCV genotype or subtype, and four co-infected with HIV. Virological relapse was defined for 44 patients, while no conclusion could be drawn for four patients.

Conclusions: In our cohort, the majority of patients experienced a virological relapse. Almost 10% were reinfected, most of them PWID and HIV co-infected. Since about half of those reinfected, showed the same subtype as at baseline, phylogenetics is needed, not only to determine the correct HCV genotype, but also to distinguish between relapse and reinfection. Of note, phylogenetic analysis can only result in confident conclusions when long genomic stretches with sufficient phylogenetic signal are available, stressing the need to perform full-genome sequencing or to concatenate multiple regions.
Abstract O_02

HCV chronic infection treatment with DAA: who are the patients that are not achieving sustained virologic response?

Valente R1, Grácio R2, Achega M3, Miranda A4, Baptista T4, Nina J5, Ventura F4, Peres S4, Aldir F4, Borges F4, Antunes I5, Campos M5, Pereira J6, Mansinho K4

1Serviço de Medicina Interna - Hospital Beatriz Ângelo, Loures, Portugal; 2Serviço de Medicina I - Centro Hospitalar de Leiria, Leiria, Portugal; 3Serviço de Medicina II - Hospital Prof. Doutor Fernando Fonseca, Amadora, Portugal; 4Serviço de Infeccologia e Medicina Tropical - Hospital de Egas Moniz – Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal; 5Serviço de Urgência – Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal; 6Serviço de Medicina I - Hospital de Egas Moniz – Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal

Background: Hepatitis C virus (HCV) is a major healthcare problem. Recent advances in the therapeutic of this infection with the introduction of direct acting antiviral (DAA) brought a change in the quality of life and life expectancy of these patients. The aim of this study is to characterize the patients submitted to hepatitis C treatment who did not achieve sustained virologic response (SVR), with special focus on those co-infected with the Human Immunodeficiency Virus (HIV).

Materials and Methods: This is a retrospective study based on individual clinical file review of HCV chronically infected patients, with regular follow-up on an out-patient Infectious Diseases clinic who were eligible to start DAA treatment during the period between 1st January 2015 and 30 April 2017. We analyzed demographic and HCV infection features, liver disease staging, therapeutic regimen and response to therapy. Data was analyzed using Microsoft Office Excel 2010.

Results: From a total of 532 patients eligible for hepatitis C DAA treatment, 405 were men (76.1%), 131 women (24.6%) and 1 transgender (0.2%), with an average of 49.8 years old and with an average of 14.2 years of HCV diagnosis. The most frequent routes of infection were the use of injected drugs in 353 patients (66.3%), followed by sexual transmission in 37 patients (6.95%), and blood transfusion in 6 patients (1.13%). 338 patients (63.5%) were co-infected with HIV. Fibrosis score was evaluated by elastography revealed that most patients (36.8%) presented F2, 23.7% F3 and only 7% F4 METAVIR stage. Genotype 1 was the most frequent (60%), followed by genotype 3 and 4 (18.6% and 18.8%). Most patients were treated with SOF/LED (74.4%) regimen, and genotype 3 patients with SOF+RIB (18.05%). The global SVR achieved was 97%. Devemos calcular e referir a taxa de RVS alcançada por genótipo e só depois caracterizar as recidivas.

Fourteen patients did not achieve SVR, 92.9% of which were men. From this group 64% were co-infected with HIV, with an average of 54 years old, and 78.6% were non-responders previously with IFN+RIB, most were ex-IV drug users (57.1%). Relating to the genotype of the virus, 35.7% of the patients were infected by G1, 28.6% by G3 and 28.6% by G4.

Conclusions: The treatment of hepatitis C virus infection was revolutionized by the introduction of the direct antiviral agents, which can achieve high rates of virologic response. Although the treatment is very effective there are still patients who do not respond to therapy. The present study reveals a low relapse rate (3%) and the majority of non-responders were men, previously treated with IFN+RIB, drug users, co-infected with HIV and have intermediate fibrosis scores (F2-F3).
Abstract O_03

HCV genotype 3 DAA treatment in a cohort of 284 HIV co-infected patients: a multicentre, observational, retrospective Portuguese study

Seixas D1, Miranda A2, Vaz Pinto I3, Casella I1, Prata M1, Pinto S4, Pinho R5, Gomes A6, França M7, Germano I8, Trigo D9, Roxo F10, Silva A11, Mingo A12, Ferreira A13, Martins A14, Mansinho K15, Maltez F16, Valente C17

1Serviço de Doenças Infecciosas - Hospital de Curry Cabral – Centro Hospitalar de Lisboa Central – Lisbon, Portugal, 2Serviço de Infectologia e Medicina Tropical - Hospital de Egas Moniz – Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal, 3Unidade Funcional VIH/SIDA - Hospital de Cascais, Cascais, Portugal, 4Serviço de Doenças Infecciosas - Hospital de São Bernardo, Setúbal, Portugal, 5Serviço de Doenças Infecciosas – Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal, 6Unidade de Doenças Infecciosas - Centro Hospitalar de Vila Nova de Gaia/Espinho, Vila Nova de Gaia, Portugal, 7Serviço de Medicina 4 – Centro Hospitalar do Algarve – Unidade de Portimão, Portimão, Portugal, 8Serviço de Infectiologia – Hospital Garcia de Orta, Amadora, Portugal, 9Unidade de Imunologia Clínica - Centro Hospitalar do Porto, Porto, Portugal, 10Serviço de Medicina 1.4 – Hospital de São José – Centro Hospitalar de Lisboa Central, Lisbon, Portugal, 11Serviço de Doenças Infecciosas – Hospital Dr. Fernando da Fonseca, Amadora, Portugal, 12Hospital de Dia de Doenças Infecciosas - Hospital de Santarém, Santarém, Portugal, 13Serviço de Doenças Infecciosas – Hospital Beatriz Ângelo, Loures, Portugal, 14Serviço de Doenças Infecciosas – Centro Hospitalar do Algarve – Unidade de Faro, Faro, Portugal, 15Serviço de Medicina 1 – Hospital de Santa Luzia – Unidade Local de Saúde do Alto Minho, Viana do Castelo, Portugal, 16Serviço de Doenças Infecciosas – Centro Hospitalar Baixo Vouga – Aveiro, Aveiro, Portugal

Background: The recent emergence of direct antiviral agents (DAA) has redefined a new treatment paradigm of chronic HCV infection. HCV/HIV co-infection is considered a priority to engage HCV treatment due to the faster progression of liver disease. DAA widespread access is not uniform across European countries. Since early 2015, Portugal is living an advantageous scenario that allowed the reimbursement and generalized use of interferon free regimens. Sofosbuvir (SOF) and sofosbuvir/ledipasvir (SOF/LDV) co-formulation were firstly reimbursed and, in July 2016, ombitasvir/paritaprevir/ritonavir plus dasabuvir (3D), daclatasvir (DCV) and grazoprevir/elbasvir (GZR/EBR) co-formulation were added. Phased reimbursement had previously conditioned genotype 3 (G3) treatment options, not always facing the rapidly scientific evidence evolution.

Patients and Methods: Multicentre, retrospective, observational study of a clinical cohort of HCV genotype 3 HIV co-infected Portuguese patients. Inclusion criteria was HCV treatment initiation with interferon free regimens, during the period between 1st March 2015 and 31st March 2017. Data was collected after individual clinical file query and statistical analysis performed by using Excel and SPSS version 15.0.

Results: 284 chronically HCV genotype 3 HIV co-infected patients started treatment with direct acting antivirals (DAA) during the study period. Demographic and epidemiologic characterization showed: a male predominance of 78% and mean age of 47 years. All patients were infected by HIV-1 and one presented dual infection (HIV-1 and HIV-2). HCV infection characterization evidenced: mean time since HCV diagnosis was 14 years; 91% presumably acquired infection by intravenous illicit substance use and 5% by sexual contact. Mean baseline HCV plasma RNA was 6,64 log10 and 20% presented with a viral load over 6,77log10. Hepatic fibrosis was evaluated by hepatic elastography showing the following distribution (METAVIR score): F0-F1 14%; F2 39%; F3 29% and F4 18%. The vast majority was naïve for HCV treatment (84%). Ninety-nine percent of patients were on antiretroviral (ARV) therapy and registered a mean baseline TCD4+ count of 522 cel/mm3 and undetectable plasma HIV RNA in 87%. Considering the ARV regimen during the DAA treatment, 43% were on a protease inhibitor, 36% on a non-nucleoside and 17% on an integrase inhibitor based regimen. Prescribed DAA regimens were: SOF+RBV 73%; SOF/LDV 4%; SOF/LDV+RBV 15%; SOF+DCV 4% and SOF+DCV+RBV 5%. Until present time, 65% of patients completed treatment and were evaluated 12 weeks after treatment completion, revealing a preliminary global sustained virologic response rate (SVR12) of 95%. To the present date, SVR achieved by DDA regimen was: 91% with SOF+RBV; 80% with SOF/LDV; 94% with SOF/LDV+RBV; 100% with SOF+DCV and 100% with SOF+DCV+RBV.
Abstracts

Two patients died after they initiated DAA treatment (0.7%) and four patients were lost to follow up (1.4%).

Conclusions: DAA therapeutic regimens have markedly improved the prognosis of HCV chronic infection, specifically in patients most difficult to cure such as those infected by G3. This study represents a real life clinical setting conditioned by the need to manage the existing and limited resources against the evolution of scientific evidence. Joint efforts will enable individualized treatment options towards the main goal of HCV eradication.

Abstract O_04

Real world effectiveness of ledipasvir/sofosbuvir (LDV/SOF) for 8 weeks in patients coinfected with HCV and HIV-1

Buggisch P1, Moreno A2, Isakov V3, Backus L4, Ain D5, Ruane P6, Gonzalez J7, Naik S4, Mehta S8, Lee J9, Mertens M10, Llewellyn J11, Natha M12, Kersey K13, Osinusi A14, Zhdanov K15, Berenguer J16, Zeuzem S17

1Gilead Sciences, Foster City, United States, 2IFI, Hamburg, Germany, 3Hosp Univ Ramon y Cajal, Madrid, Spain, 4Institute of Nutrition of Russian Academy of Medical Sciences, Moscow, Russia, 5US Department of Veterans Affairs, Palo Alto, United States, 6Ruane Medical and Liver Institute, Los Angeles, United States, 7Hospital La Paz, Madrid, Spain, 8Gilead Sciences, Stockley Park, United Kingdom, 9Military Medical Academy, St. Petersburg, Russia, 10Hospital General Universitario Gregorio Maranon, Madrid, Spain, 11J.W. Goethe University Frankfurt, Frankfurt, Germany

Background and Aims: The EASL Recommendations on Treatment of Hepatitis C state that HIV/HCV coinfection should be treated the same as HCV monoinfection with careful monitoring of antiretrovirals. Real world cohorts (RWC) have demonstrated excellent efficacy of LDV/SOF for 8 weeks in HCV monoinfected patients, however there is limited data in HIV/HCV coinfected patients. The aim of this study was to describe the effectiveness of the single tablet regimen of LDV/SOF for 8 weeks in HCV genotype (GT) 1 patients with HIV/HCV coinfection in RWC.

Methods: Real world effectiveness data of LDV/SOF for 8 weeks in HIV/HCV coinfection is emerging from several single-center and multicenter prospective and retrospective cohorts. In this descriptive analysis, data from two prospective studies and three retrospective RWC cohorts of LDV/SOF for 8 weeks in HIV/HCV coinfected patients were compared. RWC were selected based on willingness to participate and had at least 15 HIV/HCV co-infected patients. The prospective trials include data from Ain et al (investigator sponsored) and Isakov et al (registration trial). The RWC include the Deutsches Hepatitis C-Register (DHC-R), Madrid Coinfection Registry (Madrid-CoRe), and Veterans Affairs HCV Registry. Baseline characteristics and efficacy were analyzed.

Results: The majority of the 279 patients included in this descriptive analysis were GT 1, treatment naïve (TN), noncirrhotic (NC), and had a HCV viral load < 6 million. The prospective cohorts enrolled 79 patients with the following baseline characteristics: mean age (43 years), male (74%), white (78%), and GT 1a (55%). The RWC studies assessed enrolled 200 patients with the following overall baseline characteristics: mean age (53 years) male (79%), white (98%), and GT 1a (82%) in those that reported demographics. The overall SVR12 from five diverse real world and postmarketing cohorts was 94% (263/279).

Conclusions: This analysis of diverse cohorts from the EU and US yielded high SVR rates similar to SVR rates seen in RW monoinfected cohorts and supports the use of 8 weeks of LDV/SOF in TN, NC GT 1 HIV/HCV coinfected patients with a baseline HCV viral load < 6 million.
Abstract O_05

Clinical evolution of porphyria cutanea tarda (PCT) in HCV mono-infected and HIV/HCV co-infected patients after viral eradication with direct acting agents (DAA)

Rodríguez Cortés P1, García-Fraile Fraile L1, Aguilera García M1, García Buey M1, de los Santos Gil I1

1Hospital Universitario De La Princesa, Madrid, Spain

Introduction: PCT is an extrahepatic manifestation (EHM) found in HCV patients. The former treatment was based on phlebotomies and chloroquine, and it did not always produce a significant and maintained improvement on symptoms. We want to analyse the effect on PCT symptoms of achieving HCV eradication with DAA.

Materials and Methods: Descriptive retrospective study through medical histories review of patients treated with DAA in our hospital (either in Infectious and Digestive Units). We collected the baseline characteristics: age, sex, group of risk -GR-, HIV infection (and in these, CD4 count cell and baseline viral load -VL-). Referred to HCV we registered: HCV genotype, HCV VL, fibroscan® and fibrosis stage, DAA regimen and virological outcome. For PCT, we collected: age at diagnosis, prevalence of associated risk factors (hypertension [HT], diabetes mellitus [DM], dyslipidemia [DL], smoking, alcohol, and genetic polymorphisms for hemochromatosis [HFE] and uroporphyrinogen decarboxylase [UROD]), clinical diagnosis and previous treatment (phlebotomies/chloroquine). We followed the evolution of the cutaneous activity after classic treatment, comparing it with that after achieving virological response. Statistics by SPSS22.0

Results: 13 patients: mean age is 57 years; 9 males; GR: 6 former IDVU, 1 MSM; 8 HIV co-infected (among these: 7 with HIV suppressed VL, median CD4 count cell: 663 cells/ml). HCV genotype: 5 G1a, 5 G1b, 1 G3, 2 G4; Fibroscan®: median value 10.2 kPa, fibrosis stage: F1-2: 7, F3: 3 and F4: 3; DAA regimen: SOF/LDV 5, OMB/PAR/DAS 5, OMB/PAR 1, SOF+DAC 1, SOF+SIM 1; ribavirin is required in 3 of them; all of them achieve sustained virological response at 12th week after DAA (SVR12).

The age at PCT diagnosis is 47.7 years. 12 smokers, 4 on alcohol active consumption, 1 HT, no DM, 1 DL. We have not performed polymorphisms for UROD yet; finding 3 cases of H63D heterozygosis without G282Y mutations. Total porphyrins/fractionated in urine are high in the 6 patients in which they have been measured. Cutaneous clinic: blisters in photo-exposed skin in 11, scarring in 4, malar hypertrichosis in 1. Initial treatment: phlebotomy in 10 and chloroquine in 5. With classic treatment of PCT 8 out of 13 improve cutaneous activity (3 with complete resolution), 3 remain asymptomatic and 2 patients persist symptomatic (1 of them lost follow-up). After HCV eradication with DAA, cutaneous symptoms improve in all still symptomatic patients, who remain asymptomatic.

Conclusions: PCT is an EHM with non-low prevalence in our HCV patients. Its classic treatment failed to control the disease in many cases. The control of the cutaneous activity is achieved in all our patients after obtaining viral eradication with DAA regimens.
Abstract O_06

Acute hepatitis A outbreak among men who have sex with men in Milan: the role of HIV co-infection

Rossotti R1, Merli M2, Travi G1, Motta D1, Moioli M3, Orcese C1, Schiantarelli C1, Vigo B1, Puoti M1

1Infectious Diseases Department, Asst Grande Ospedale Metropolitano Niguarda, Milan, Italy

Background: Since the beginning of 2017, a large outbreak of acute HAV infection is involving the men who have sex with men (MSM) population in several European cities. Aim of this study is to compare the current epidemic in HIV-positive MSM (MSM+) to HIV-negative MSM (MSM-) and non-MSM subjects.

Methods: Demographic, epidemiologic, clinic and laboratory features of cases of acute HAV infection admitted to Niguarda Hospital (Milan, Northern Italy) from January to April 2017 have been collected. Descriptive statistics and non parametric tests were used (Chi-square, Mann-Whitney U and ANOVA as appropriate). Jonckheere-Terpstra test was employed to describe temporal trends.

Results: 40 subjects have been analyzed: 39 males, median age 31 years, 85% native Italians. Sexual transmission was identified in the 85.0% of cohort (24 MSM- and 9 MSM+), while other 7 cases were related to different risk factors. Median CD4+ cell count in MSM+ was 591 cell/mmc with a median ratio of 1.0; 88.9% was on antiretroviral treatment with an undetectable HIV RNA. The MSM- group was younger than MSM+ and non-MSM (29 versus 36 and 46 years, respectively; p=0.002). The comparison of MSM individuals described two different populations: MSM- were better educated than MSM+ (70.8% had a Level 3-6 of Education versus 33.3%, p=0.043), had higher levels of ALT (3,214 versus 2,382 UI/mL, p=0.048) but lower alkaline phosphatase values (153 versus 243 UI/mL, p=0.004), had less sexually transmitted infections (STIs) in their medical history (36.4% versus 77.8%, p=0.004). MSM- had a tendency to have less concurrent STIs with acute hepatitis: 13.6% versus 44.4% (p=0.063). Although non-MSM cases were few and steady over time, MSM- seemed to have a peak in February while MSM+ in late March/April, the Jonckheere-Terpstra test failed to identify significant temporal trends.

Conclusions: The ongoing epidemic of acute HAV infection is mainly driven by sexual contacts amongst MSM. Nevertheless, MSM+ have different clinical and biochemical features compared to MSM-: they are older, less educated, with higher levels of liver cytolysis and with more frequent STIs in their clinical history. It might be supposed that MSM- acquired HAV despite consistent condom use, as expected given the oral-anal route of transmission of HAV. On the contrary, HAV infection in MSM+ could be considered as a part of their more unsafe behaviors. Even though the absolute number of cases is decreasing in MSM- and increasing in MSM+, no true temporal trends could be defined. Given the ineffectiveness of traditional preventive measures, anti-HAV vaccination should be actively offered to MSM, as already recommended by European guidelines; such recommendation is even stronger in MSM+, for whom acute hepatitis might be the marker of ongoing risky behaviors.
Abstract O_07

Outbreak of hepatitis A in men who have sex with men in 2017 - experience in Infectious Diseases Department, Hospital de Curry Cabral - CHLC, Lisbon, Portugal

Garrote A1, Simões P1, Caeiro A1, Pinheiro H1, Ramirez F1, Betkova S1, Gonçalves R1, Cabo J1, Alves L1, Cardoso S1, Lino S1, Póvoas D1, Seixas D1, Cardoso O1, Martins T1, Manata M1, Garrido N1, Maltez F1

1Hospital Curry Cabral- Centro Hospitalar Lisboa Central, Lisboa, Portugal

Background and Aims: Hepatitis A (HAV) remains one of the most frequently reported diseases that is preventable by vaccine, most commonly acquired through contaminated food via the faecal-oral route. Recognized risk factors include contact with an infected person, use of illicit drugs, being a man who has sex with men (MSM) and international travel. Periodic HAV outbreaks among MSM have been reported since early 90’s. Between 1st January and 24th April 2017, 211 acute hepatitis A cases were notified in Portugal, mainly in the metropolitan region of Lisbon. The objective of this work is to characterize the HAV cases in human immunodeficiency virus (HIV) infected persons observed in our hospital.

Materials and Methods: An observational study was conducted, including all cases of HAV acute infection in patients with HIV. Data was collected by review of clinical files until April 24st 2017. A confirmed case was defined as a laboratory confirmed HAV infection with the outbreak specific genomic viral sequence and symptoms onset after 1 January 2017. A probable case was defined as a laboratory confirmed HAV infection by specific serology, with symptoms onset after 1 January 2017, history of contact with a confirmed case and/or who self identifies as MSM.

Results: In the above defined period, 26 cases of HIV/HAV acute infection were seen in our department, 15 confirmed and 11 probable cases. All were in MSM; aged 34-60 years old (average 31.73); 18 patients (69.23%) were Portuguese; 5 (19.23%) were newly diagnosed with HIV; 20 (76.92%) had between 350-500 CD4+/µL T lymphocytes; 14 (53.85%) had HIV RNA <50cp/mL; > 50% had past history of sexually transmitted diseases. None reported intravenous drug use, however some referred consumption of recreational drugs by other routes. The most frequent symptoms were nausea and vomiting in 20 patients (76.92%), anorexia and malaise in 18 (69.23%) and fever in 17 (65.38%). The average of laboratory values on clinical presentation were: aspartate aminotransferase 1372U/L, alanine aminotransferase 2344U/L, gamma-glutamyl transpeptidase 388U/L, alkaline phosphatase 288U/L, total bilirubin 6.40mg/dL (maximum 18.4); thrombocytopenia was observed in 3 patients and prolonged prothrombin time in 14 (maximum 18.4 seconds). All had HAV-specific IgM antibodies positive, 2 had HAV-specific IgG antibodies negative and 24 had IgG antibodies positive. Four patients were recently vaccinated. Hepatitis B or/and C infections were excluded. Eleven patients (42.30%) needed hospitalization; however no one progressed to fulminant hepatitis and/or dead.

Conclusions: MSM are in particular risk for HAV infection and there is a need of active information and education in safe sexual practices, including personal hygiene measures, before and after sexual contact. HAV vaccination should be globally implemented in this population, as well as post exposure prophylaxis measures in close contacts with persons with acute HAV infection. Finally, it is important to exclude other sexually transmitted diseases in HAV acute infection cases.
Abstracts

Direct acting antiviral treatment for HCV in safety net settings: provider and HIV/HCV co-infected patient preferences

Shumway M\textsuperscript{1}, Luetkemeyer A\textsuperscript{1}, Napoles T\textsuperscript{1}, Johnson M\textsuperscript{1}, Peters M\textsuperscript{1}, Riley E\textsuperscript{1}

\textsuperscript{1}University Of California, San Francisco, San Francisco, United States

**Background:** HIV/HCV coinfected patients are a priority for direct acting antiviral (DAA) HCV treatment, but barriers to engaging and treating vulnerable patients persist. We surveyed HIV/HCV safety net clinic patients and their providers to understand preferences for DAA treatment and identify barriers to care.

**Materials and Methods:** Patients and providers were recruited from five San Francisco university and public health clinics providing HIV and HCV care. Preferences were assessed using best-worst scaling. Relative Importance Scores (RIS) were estimated using hierarchical Bayes estimation. General linear mixed models were used to determine whether attributes differed in importance and whether patients and providers valued attributes differently.

**Results:** 158 HIV/HCV patients and 49 providers participated. Patients were 69% male, 44% White, 32% Black, and 84% low income, with a mean age of 51 years. 87% had a history of homelessness and 77% had injected drugs. Mean number of years infected was 18 for HIV and 15 for HCV. 91% were on ART, with 81% reporting good/excellent adherence. Providers had varied expertise (43% HIV, 22% primary care, 22% hepatology, 8% addiction medicine, 4% other). 78% had experience treating HIV and 53% had experience treating HCV.

Patients and providers had strong preferences for treatment within the clinics where patients already received consistent ongoing care (medical homes). Both preferred DAA treatment from the current HIV primary care provider (RIS=21 for patients and 17 for providers) and the current clinic (RIS=19 and 20) over referral to a specialty clinic (RIS=5 and 3). Receiving DAA from a current provider was more important to patients than to providers (p=.002). Providing self-help tools like reminders and advice numbers was more important to providers than patients (p<0.001). Providers identified lack of insurance (RIS=24), DAA-related paperwork (RIS=16), patients’ competing health concerns (RIS=15), and lack of DAA treatment resources (RIS=13) as important barriers to care, while lack of training in HCV care was less important (RIS=8).

**Conclusion:** In urban safety net settings, HIV/HCV patients and their providers had strong preferences for DAA treatment in the medical home. Structural barriers, including lack of insurance, administrative burden, and inadequate staffing, must be addressed to facilitate DAA treatment in the medical home.
Abstract O_09

Hepatic steatosis and lipid profile evolution after hepatitis C treatment in hcv/hiv coinfected patients

Méndez J¹, Soeiro C¹, R. de Valdoleiros S¹, Gonçalves C¹, Videira F¹, Cipriano A¹, Vasconcelos O¹, Abreu M¹, Gonçalves M¹, Sarmento e Castro R¹

¹Centro Hospitalar Do Porto, Porto, Portugal

Background: Hepatic steatosis (HS) is commonly found in HCV/HIV coinfected patients. HCV infection is associated with lipid metabolism abnormalities and with hepatic steatosis. Some studies suggest that these parameters improve with sustained virological response (SVR). Controlled attenuation parameter (CAP) evaluated with transient elastography (FibroScan) is being studied for the non-invasive assessment of steatosis. The ideal cut-off value for differentiating HS stages has not been defined, but the manufacturer recommends the value of 233dB/m in patients with viral hepatitis.

Aim: To evaluate the evolution of lipid profile in HCV/HIV coinfected patients 12 weeks after HCV treatment in patients with or without HS according to baseline CAP value.

Methods: Prospective study of HCV/HIV coinfected patients treated for chronic hepatitis C. Patients were stratified based on the diagnosis of HS, according to CAP value (CAP ≥233dB/m were classified as having HS). SPSS 23.0 was used for statistical analysis.

Results: We included 257 patients: 87.2% were male, the mean age was 48 years old and the acquisition of HCV was by intravenous drug use in 95.3%. The most frequent genotype was G1 (75.5%), followed by G4 (12.8%), G3 (11.1%) and G2 (0.4%). Mean value of fibrosis was 16.4KPa and 43.2% of patients were cirrhotic. SVR12 was 95%. All patients were receiving antiretroviral therapy and 96% had undetectable HIV RNA. The mean CD4 count was 627/mm3.

Of the evaluated patients, 45.5% (n= 117) had CAP > 233dB/m and were classified as having HS.

Patients with HS had a higher mean fibrosis value (18.08 vs 14.75 KPa, p<0.05), higher body mass index (25.4 vs 21.9 Kg/m2, p<0.05) and a higher percentage of hypertriglyceridemia (19.7% vs 10%, p<0.05).

Concerning the evolution of the lipid profile between baseline and 12 weeks after treatment, we observed an increase of the total cholesterol in patients with and without HS (159 vs 181; p<0.001 and 170 vs 184; p<0.001). There was also an increase in the LDL cholesterol level in both groups (84 vs 104; p<0.001 and 92 vs 111 p<0.001).

Regarding mean CAP values, we observed a slight decrease in the group of patients with HS (268 vs 250 p<0.005).

Conclusion: In our sample of HCV/HIV coinfected patients, 45.5% had CAP higher than 233dB/m and were classified as having HS. Patients with HS had significantly higher mean fibrosis value. We also observed an increase in both total and LDL-cholesterol after HCV treatment in both study groups. These results are in accordance with other previous studies. More data are needed on the clinical use of CAP to diagnose HS.
Abstract O_10

Treatment of cirrhotic HCV/HIV co-infected patients with DAAs

Sarmento e Castro R1, Marques M1, Tavares A1, Gonçalves C1, Furtado I1, R.de Valdoleiros S1, Vasconcelos O1, Seabra J1, Méndez J1

1Centro Hospitalar Do Porto, Porto, Portugal

Background: New direct antiviral agents (DAAs) are safe and effective in the treatment of patients with hepatitis C infection but few clinical trials included a significant number of cirrhotic co-infected patients.

Aim: To evaluate the efficacy and safety of DAAs in the treatment of cirrhotic HCV/HIV co-infected patients in a real life setting.

Methods: Prospective study of cirrhotic HCV/HIV co-infected patients treated with DAAs for 12 or 24 weeks. We compared the baseline characteristics and at follow-up using SPSS version 23.0. Multivariate linear regression was done to analyse possible factors associated with SVR12.

Results: We included 113 patients; half were treated with SOF/LDV (n=57; 50%), 33.6% with SOF/LDV+RBV (n=38) and 16.4% with other regimens. Mean age was 47 years old, 86.7% (n=98) were male and 94% (n=196) were intravenous drug users (IVDUs). Genotypes: G1, 87 (77%); G2, 1 (0.9%); G3, 14 (12.4%); G4, 11 (9.7%). At baseline, 38.1% (n=43) had transient elastography (TE) >25kPa and 61.9% between 12.5 and 25kPa. Mean HCV RNA was 3.835.653 UI/mL. Most patients were Child-Pugh A and the mean baseline MELD score was 8.7 points. At baseline, 19 patients (16.8%) had less than 75x103 platelets/µL and ten (8.9%) had albumin <3.5 g/dL. 22 (19.5%) patients had endoscopic signs of portal hypertension and 33.6% (n=38) were treatment experienced. Concerning HIV infection, all of the patients were under HAART, mean CD4+ cell count was 577 and 95% of the patients had <20copies/ml.

In this real life cirrhotic cohort 93.8% (n=106) achieved SVR12, without statistically significant differences between genotypes or patients’ characteristics (age, body mass index, IL28B), except for albumin <3.5 g/dL (p=0.007). Furthermore, in our population, SVR12 was associated with a statistically significant decrease in TE, improvement of platelets, albumin and MELD score (p<0.05). None of the patients had to stop HCV treatment. Of the seven patients who failed to achieve SVR12, four (57%) died during treatment, one (14.3%) relapsed and two (28.6%) were lost to follow-up. During treatment five patients (4.4%) decompensated: two with encephalopathy; two developed hepatocellular carcinoma and one had variceal bleeding.

Conclusion: HCV/HIV co-infected cirrhotic patients achieved SVR12 in 93.8% and had a statistically significant improvement in hepatic function during treatment with DAAs (MELD, TE, platelets and albumin). Lower level of albumin was statistical significantly associated with poor SVR12.

Regression of liver fibrosis in patients with chronic hepatitis C treated with direct acting anti-viral (DAA) therapy in the country of Georgia

Dolmazashvili E1,2,3, Abutidze A1,2, Karchava M1,2, Sharvadze L1,2,3, Chkhartishvili N1,2,3, Tsertsvadze T1,2,3

1Hepatology Clinic "Hepa", Tbilisi, Georgia, 2Infectious Diseases, AIDS & Clinical Immunology Research Center, Tbilisi, Georgia, 3Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia

Background: Hepatitis C virus (HCV) infection is one of the main causes of chronic liver disease. Novel DAAs targeting HCV have revolutionized the treatment of chronic infection by dramatically increasing rates of sustained virological response (SVR) and minimizing treatment adverse effects. However, patients with severe liver disease remain at risk of life-threatening complications even after achieving an SVR; several studies using noninvasive methods such as Transient Elastography (TE) have suggested a significant reduction in liver stiffness (LS) during therapy with pegylated interferon (PEG-IFN) and ribavirin (RBV).
However, it is still controversial, whether HCV-associated liver fibrosis and cirrhosis are reversible after achieving SVR with DAA-containing therapy. We assessed the impact of DAA therapy on liver fibrosis regression measured by TE in patients with chronic HCV infection.

Materials and Methods: A prospective cohort study was conducted at the Hepatology Clinic “HEPA”, which is Georgia’s second largest provider of HCV clinical care within the national hepatitis C elimination program. The study population was HCV mono-infected adults with advanced liver fibrosis or cirrhosis (fibrosis F3 or F4 by Metavir) receiving interferon-containing or interferon-free DAA therapy. LS score > 14.5 kPa indicated LS-defined cirrhosis. The primary outcome was improvement in liver stiffness measurement (LSM) at week 24 post-treatment measured as 1) decrease in median LS compared to baseline and 2) at least 20% decrease in LSM compared to baseline. Data were analyzed using Mann-Whitney Wilcoxon signed-rank test, Pearson’s chi-square or Fisher’s exact test. Multivariable logistic regression analysis was conducted for identifying factors associated with at least 20% improvement in LSM. A p-value below 0.05 was considered statistically significant in all analyses.

Results: Of total 304 patients 172 (56.6%) had LS-defined cirrhosis pre-treatment. SVR was achieved in 257 (84.5%) patients treated for HCV infection with either interferon-containing (PEG-IFN/RBV/Sofosbuvir (SOF) for 12 weeks) or interferon-free regimens (SOF/RBV for 12, 20 or 24 weeks, SOF/Ledipasvir (LDV)+RBV for 12 or 24 weeks). LSM decreased from baseline median of 16.9 (IQR: 11.8 – 27.7) kPa, to post-treatment week 24 score of 11.9 (IQR: 8.2 – 20.9) kPa (p<0.0001). Of total 304 patients 198 (65.1%) achieved at least 20% reduction in LS. In multivariate logistic regression analysis SVR was significantly associated with this reduction (p<0.0001). Compared to Interferon-containing regimens Interferon-free regimens seemed to contribute to the outcome, but the difference did not reach statistical significance (SOF/RBV vs. PEG-IFN/SOF/RBV – OR: 1.90, 95% CI: 0.94-3.82, p=0.07; SOF/LDV±RBV vs. PEG-IFN/SOF/RBV – OR: 1.94, 95% CI: 0.96-3.94, p=0.06). Comparisons by other pretreatment parameters did not identify statistically significant differences. Despite decreasing baseline LSM, more than half of LS-defined cirrhotic patients remained cirrhotic at week 24 post-treatment.

Conclusion: SVR achieved after DAA treatment is associated with regression in LS. However, many patients with advanced fibrosis and cirrhosis pretreatment may have lifetime liver damage regardless of achieving SVR. Thus, early identification and treatment of patients with HCV infection can significantly prevent residual liver damage.
Abstract O_12

Hepatitis co-infections and HBV vaccination status among people living with HIV in Germany - Data from a hepatitis screening in the German HIV-1 seroconverter cohort

Schmidt D1, Haußig J1, Kollan C1, Meixenberger K1, Kühne A1, Sailer A1, Bannert N1, Bremer V1, Bartmeyer B1, on behalf of the HIV-1 Seroconverter study group

1Robert Koch Institute, Berlin, Germany

Background & Study Aims: Hepatitis B and C and human immunodeficiency virus (HIV) share similar transmission pathways. Therefore, co-infections with hepatitis B (HBV) or hepatitis C (HCV) are common among people living with HIV (PLHIV). The course of hepatitis infection can be more severe and is more often chronic among PLHIV.

This study investigated the prevalence of HBV and HCV co-infections as well as the HBV vaccination status among patients of the HIV-1 seroconverter cohort in Germany.

Methods: As part of a nationwide, long-term observational multicentre HIV-1 seroconverter cohort study, plasma samples collected from 2012-2016 were tested for HBs antigen and antibodies against Hbc, HBs, and HCV. HBV seroprevalence was determined based on anti-HBc positivity. Anti-HCV positive samples were confirmed with polymerase chain reaction (active HCV) or immunoblot (cleared HCV). The study included individuals who were not HBV-infected or HBV-vaccinated and not HCV-infected, respectively, during a previous hepatitis screening in 2012 (baseline) as well as persons with an unknown hepatitis status. The occurrence of new HBV and HCV infections was analysed among people with known negative HBV/HCV status at baseline. In addition, information on the HBV vaccination status from routine data collection within the cohort was evaluated.

Results: From 2012-2016, 973 people were tested for HBV and 1,755 for HCV. Seroprevalence of HBV was 14% (140/973), 53% (516/973) showed HBV vaccine-induced antibodies. 33% (317/973) were negative for all HBV markers and thus likely susceptible to HBV infection. For 63% (617/973) of these people a vaccination was reported in the cohort data. Among those with reported vaccination, 63% (390/617) showed HBV vaccine-induced antibodies, 6.0% (37/617) showed markers of an HBV co-infection and 31% (190/617) showed no HBV vaccine-induced antibodies. New HBV infections between 2012 and 2016 were identified among 9.0% (21/234) of people with known negative HBV status at baseline, 29% (69/234) were effectively vaccinated and 62% (144/234) remained HBV susceptible.

HCV seroprevalence was 4.8% (84/1,755) among all people tested. In 1,011 people with known negative HCV status at baseline, 4.8% (48/1,011) new HCV infections were observed (2.3% active HCV, 2.5% cleared HCV).

Conclusions: A high proportion of HIV-1 seroconverters showed HBV co-infection. Despite the long-standing HBV vaccination recommendations for PLHIV, only about half of the people tested were effectively vaccinated. One-third of the individuals were still susceptible to HBV infection.

HCV infections were also significantly more common in the study population than the HCV seroprevalence of 0.3% seen in the general population.

The hepatitis co-infection rates among PLHIV underline the need for targeted HBV vaccination campaigns, more awareness for offering HBV vaccination and regular HCV screening in addition to the comprehensive HIV care provided by specialized physicians in Germany.
13th International Workshop on Co-infection HIV & Hepatitis

21 - 23 June 2017, Lisbon, Portugal

Abstracts

Poster Presentations
Abstract P_13

HCV impact on HIV-1 protease evolution in HCV/HIV co-infected pediatric patients

Dominguez Rodríguez S1, Rojas Sánchez P1, Fernandez McPhee C1, Pagan P2, Navarro M2, Ramos J2, Holguín A2

1Hospital Ramón y Cajal, Madrid, Spain, 2Hospital Gregorio Marañón, Madrid, Spain, 3Centre for Plant Biotechnology and Genomics, Madrid, Spain, 4Hospital de Getafe, Getafe, Spain

Background: Co-infection by hepatitis C virus (HCV) is one common comorbid condition in HIV-infected. This study evaluates the impact of HIV/HCV coinfection in molecular evolution of HIV-1 subtype B protease (HIV-1BPR) in the MDRMid cohort of HIV-1 infected children and adolescents.

Methods: HIV-1B/HCV co-infected and HIV1B monoinfected patients with similar gender, age, time of infection and time under antiretroviral treatment (ART) with available pol sequences were enrolled. Drug resistance mutations (DRM) prevalence and evolutionary parameters at HIV1BPR were compared among groups. Genetic diversity, number of synonymous (dS) and non-synonymous (dN) mutations per site and selective pressures (dN-dS) were analyzed at the population level and in each PR codon by FUBAR bayesian analysis.

Results: Similar prevalence of DRM to ART families in HIV-1B was observed in the 15 co-infected and 56 mono-infected patients. Mean genetic distances in HIV1B-PR were similar (0.05±0.02 vs. 0.045±0.01), dN and dN-dS were significantly higher in co-infected patients (dN: 0.045±0.01 vs. 0.024±0.01; dN-dS: -0.029±0.02 vs. -0.054±0.045). By contrast, dS values were similar in both groups (dS: 0.074±0.03 vs. 0.078±0.04). Co-infected patients presented fewer number of codons under purifying selection (4.2% vs. 42.1%) and similar under diversifying selection. In co-infected subjects, DRM to PI at residues 50, 53, 82, 84 and 88 were under neutral evolution instead of under purifying as in mono-infected.

Conclusions: Changes in selection pressures observed in our analyses suggest that HIV-1B would evolve differently under HCV co-infection and this might not be due to the host immune system or DRM to ART but a viral-viral direct interaction. The higher proportion of neutral evolving sites in HIV-1BPR observed in co-infected patients vs. HIV-1B mono-infected could reveal two possible explanations. The presence of HIV/HCV co-infection could force HIV PR to evolve and adapt or possibly, HCV proteins complements the function of the HIV PR and therefore keeping HIV PR constrained is not as important.

Abstract P_14

The pattern of hepatitis B surface antigen quantification and its correlation with HBV DNA among Nigerian patients with chronic HVB: implications for treatment and long term complications

Akande K1, Akere A1

1Department Of Medicine, University Of Ibadan/university College Hospital, Ibadan, Ibadan, Nigeria

Nigeria is endemic for HBV infection which is the commonest aetiology for liver cirrhosis and or liver cancer in the country. Quantitative HBsAg level has been said to correlate with covalently closed circular DNA which is responsible for the persistence of the infection in the hepatocytes. It also suggest the level of the immunological control the body exerts on the virus and predicts the risk of long term liver complications especially in those with low HBV DNA. There is however paucity of data about the pattern of HBsAg quantification among patients with chronic HBV infection in Nigeria and in sub-Saharan Africa. The aim of this study is to determine the pattern of the HBsAg quantification and its correlation with HBV DNA among patients with chronic HBV in Nigeria.
This was a cross sectional study done among patients attending University College Hospital, Ibadan. Ninety Four asymptomatic treatment naïve patients with chronic HBV were recruited for the study. Chronic CHB was defined as being positive for HBsAg for more than six months or being positive for HBsAg with negative IgM anti HB core. Abdominal ultrasound was done for all the patients to exclude patient with liver cirrhosis or hepatic masses. All the patients had HbeAg, anti HBe, HBsAg quantification and HBV DNA count done. HBsAg quantification was done using COBAS E 411, roche diagnostics that uses Chemiluminescence method while HBV DNA was done using CAPCTM ETAQMAN 48, Roche diagnostic which uses real time PCR method. The data was analyzed using SPSS version 20.

Ninety Four patients comprising of 56 (59.6%) male and 38 (40.4%) female were recruited for the study. Their age ranged from 17 to 68 years with a mean of 37.66 ± 9.84. Ninety (95.7%) of the patient were negative for HBeAg while 4 (4.3%) were negative for HBeAg antigen. Test for normality were carried out for HBsAg quantification and HBV DNA using Shapiro-Wilk.

HBsAg quantification ranged from undetectable (0.25) to 41,196 UI/ml with a median of 4,285 while the DNA count ranged from undetectable (20 ) to 170,000,000 IU/ml with a median of 574. There was no significant relationship between age of the patients and HBsAg quantification (P=0.091, rho= 0.175). There were also no significant relationships between sex of the patients (p=0.811), presence or absence of HBeAg (p=0.435) and HBsAg quantification. There was no correlation between HBsAg levels and HBV DNA (p=0.326, rho 0.437). Furthermore, 72 ( 76.6%)patients had HBV DNA less than 2000 UI/ml while only 24 (25.5%) patients had HBsAg level less than 1000 UI/ml. Interestingly, 58 (77.8%) of the patients with HBV DNA less than 2000 UI/ml had HBsAg level more than 1000 IU/ml.

HBsAg levels are very high in Nigerian patients with chronic HBV infection irrespective of the age, sex and even the HBV DNA levels. This might mean higher risks for long term hepatic complications among them if HBsAg quantification is not part of the criteria for treatment as it is with most guidelines now.

Abstract P_15

Liver fibrosis regression in HCV-HIV co-infected individuals with F3-F4 Metavir score after successful treatment of chronic hepatitis C with direct-acting antiviral agents at Infectious Diseases Department in Hospital de Curry Cabral – CHLC, Lisboa, Portugal

Caeiro A1, Simões P1, Garrote A1, Pinheiro H1, Gonçalves R1, Betkova S1, Ramírez F1, Cabo J1, Alves L1, Póvoas D1, Seixas D1, Cardoso S1, Lino S1, Cardoso O1, Martins T1, Garrido N1, Manata M1, Maltez F1

1Hospital Curry Cabral, Lisboa, Portugal

Chronic hepatitis C is associated with cirrhosis and liver failure with accelerated progression of liver disease in HIV co-infection. Studies have demonstrated improvement of liver fibrosis in patients with sustained virological response after direct-acting antiviral (DAA) HCV therapy. We performed a retrospective study, by analysis of clinical files of all HCV-HIV co-infected individuals with F3-F4 Metavir score and compared liver function markers and fibrosis scores, before DAA treatment and twelve weeks and one year after treatment with sustained virological response (SVR).

Of 300 HCV-HIV coinfected patients treated with DAA, we selected 71 according to METAVIR score of F3 or F4 and to the achievement of SVR12 or one year (SVR48) after the end of treatment. The majority of patients were infected with HIV type 1, with a mean of absolute CD4 count of 569 cells/uL (median 539 cells/uL, [56-1362]) and 87% had HIV viral load undetectable at the beginning of HCV treatment. The individuals in our sample had on average 50 years old (median 50 [32-75]) and were frequently male (79%). HCV genotypes were 1 (69%), 3 (11%) and 4 (20%), 41% of them were peginterferon/ribavirin experienced and 11% with history of alcoholic abuse. An improvement in overall liver function was observed, both by enhancement of platelet count and by improvement of liver enzymes. Platelet count
Increased from mean 134000/uL to 159000/uL at SVR12 and to 154000/uL at SVR48. This improvement in platelet count resulted in a reduction of 31% of thrombocytopenic patients SVR12 and 11% more at SVR48. Aspartate aminotransferase (AST) and alanine aminotransferase (ALT) means evolved from 85:87 U/L pretreatment to 32:30 U/L and to 28:27 U/L, respectively, at SVR12 and SVR48. Using Fibrosis-4 (FIB-4) Index for liver fibrosis it was observed that 46% had a ≥ 3.25 score; from those, 67% had an improvement at SVR12 and more 12% at SVR48. Using AST to Platelet Ratio Index (APRI), 37% of individuals had a ≥ 2.0 score, with 88% of them improving at SVR12 evaluation and 4% more at SVR48. When possible, we also calculated Child-Pugh Score and Model For End-Stage Liver Disease Score (MELD) pretreatment and at SVR48. It was observed that 2% aggravated, 28% maintained and 20% got better Child-Pugh Score (51% without data available) and 7% aggravated, 13% maintained and 38% improved the MELD Score (43% without data available).

Our results confirm that fibrosis regression can be achieved in the day-to-day clinical practice with DAA treatment and SVR in HCV-HIV coinfected cirrhotic individuals. Our results also show that there is a great improvement until the twelfth week of follow-up, with maintenance or an additional improvement at one year follow-up.

Abstract P_16

Chronic hepatitis C genotype 3 treatment in Portugal: what does the future hold after two years of DAA therapy?

Miranda A1, Baptista T1, Nina J1, Ventura F1, Peres S1, Aldir I1, Borges F1, Antunes I1, Campos M2, Pereira J3, Mansinho K1

1Serviço de Infeccologia e Medicina Tropical do Hospital Egas Moniz, Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal, 2Serviço de Urgência do Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal, 3Serviço de Medicina 1 do Hospital Egas Moniz, Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal

Background: Current HCV treatment guidelines recommend the use of daclatasvir plus sofosbuvir (DCV/SOF) or sofosbuvir plus velpatasvir (SOF/VEL) for the management of genotype 3 (G3) based upon clinical efficacy and safety.

In Portugal since early 2015, SOF and SOF plus ledipasvir (SOF/LDV) treatment were totally reimbursed and generalized use of interferon free regimens became current practice. After July 2016, ombitasvir/paritaprevir/ritonavir plus dasabuvir (3D), daclatasvir (DCV) and grazoprevir/elbasvir (GZR/EBR) were added. Sequential policy reimbursement had conditioned genotype 3 (G3) treatment options until recently.

Patients and Methods: Our Infectious Diseases Centre elected 537 HCV chronically infected patients to start DAA treatment, between March 2015 and March 2017, 18% of which infected by G3. The study is a retrospective, observational analysis of 99 HCV G3 chronically infected cohort in a clinical real life setting.

Data was collected after individual clinical file query and statistical analysis performed with Excel and SPSS version 15.0.
**Results:** The studied population (N=99) were divided into 42 (42%) HCV infected and 57 (58%) HIV coinfected patients. Male gender was predominant (74% HCV vs 81% HCV/HIV) and mean age was 48 years in both groups. The vast majority were born in Portugal (95% HCV vs 100% HCV/HIV).

HCV infection characterization revealed (HCV vs HCV/HIV): mean time since HCV diagnosis 12 vs 13 years; 66% vs 85% parenteral transmission by intravenous drug use; CC IL28B polymorphism 35 vs 60%; baseline HCV RNA above 6,8 log10 17 vs 23%; 83% vs 84% were treatment naïve. Co-infected patients presented a mean baseline TCD4 lymphocyte count of 523 cel/mm3; all were under antiretroviral therapy and 91% evidenced undetectable plasma HIV RNA levels.

Liver disease staging showed (HCV vs HCV/HIV): ALT above UNL in 83% vs 78%; Child Pugh A in 98 vs 91% and MELD score less than 10 in 91 vs 83%.

Hepatic fibrosis was determined by real time elastography: F0-F1 (7 vs 0%); F2 (31 vs 54%); F3 (52 vs 39%) and F4 (10 vs 5%).

SOF plus ribavirin (RBV) during 24 weeks was the most prescribed regimen (81 vs 91%) and until present time, 26 HCV (62%) and 40 HCV/HIV (70%) patients completed treatment and 12 or 24 week follow up. Global sustained virologic response achieved was 100% vs 95%. Relapse occurred in 2 HCV/HIV coinfected patients, both after completed 24 weeks with SOF+RBV, and both currently waiting for retreatment with SOF+DCV+RBV combination.

Reported adverse event rate was 50 vs 36% but, in any case responsible for treatment discontinuation.

**Conclusion:** Our cohort reflects the national HCV G3 treatment practice until recently mostly focus on SOF+RBV combination. The current reimbursement policy will promote a wider available DAA options that will improve and individualized treatment options. As clinical real life setting data is becoming available new predictive response factors should be determined, especially directed to those considered as difficult to manage patients, allowing the best profitability of existing resources.

**Abstract P_17**

**DAA therapy in a cohort of 215 HCV chronically infected patients with advanced fibrosis and cirrhosis: the real life experience of an infectious diseases Portuguese centre**


*1*Serviço de Infeccioologia e Medicina Tropical - Hospital de Egas Moniz - Centro Hospitalar De Lisboa Ocidental, Lisbon, Portugal; *2*Serviço de Urgência do Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal; *3*Serviço de Medicina 1 do Hospital de Egas Moniz - Centro Hospitalar de Lisboa Ocidental, Lisbon, Portugal

**Background:** Advanced fibrosis may be present in a significant proportion of patients with asymptomatic chronic hepatitis C (HCV) infection, including those with recent diagnosis. HCV treatment improves all-cause and liver-related mortality in patients with advanced fibrosis and there is scientific evidence that reversal of decompensated liver disease may occur after sustained virologic response (SVR).

HCV/HIV co-infection does not limit treatment response rates but is assumed as a priority to engage treatment related to the faster progression of liver disease.

**Patients and Methods:** Demographic, epidemiological, clinical, virological and treatment response data of HCV chronic infected patients, with or without HIV co-infection, was collected during the period between 1st January 2015 and 30th April 2017.

Hepatic fibrosis was accessed by real time elastography together with APRI and FIB-4 serum biomarkers. Cirrhosis was considered for those with METAVIR F4 and for those with F3 plus high APRI or FIB-4 scores.

Data was collected after individual clinical file query and statistical analysis performed by using Excel and SPSS version 15.0.
Results: Our Infectious Diseases Centre elected 537 HCV chronically infected patients to start DAA treatment, during the study period, 40% of which presented with advanced fibrosis (F3) or cirrhosis (F4). Reporting to the group of patients with advanced fibrosis or cirrhosis (N=215), 62% (N=134) were HCV/HIV co-infected. Demographic and epidemiological characterization showed (HCV vs HCV/HIV): male predominance (60 vs 77%); mean age of 53 vs 49 years old; Portuguese origin in 84 vs 90%

HCV characterization revealed (HCV vs HCV/HIV): time since diagnosis 11 vs 15 years; parenteral transmission in 58 vs 84% and sexual transmission in 23 vs 13%; CC IL28B polymorphism 31 vs 37% and baseline plasma RNA above 6.8 log10 in 10 vs 16%

Genotype prevalence found was: G1a (34 vs 52%); G1b (22 vs 14%); G2 (4 vs 2%); G3 (23 vs 13%); G4 (16 vs 19%) and G6 (1 vs 0%)

Liver disease staging evidenced (HCV vs HCV/HIV): F4 in 23 vs 28%; ALT >UNL in 82 vs 81%; Child Pugh A in 97 vs 90% and MELD score < 10 in 88 vs 84%

HIV co-infected patients had a mean baseline TCD4 count of 624 cel/mm3, 99% were on antiretroviral therapy and 90% with suppressed virologic replication

Most patients were naïve for HCV treatment (68 vs 60%). According to genotype prevalence and reimbursement national policies, most frequently prescribed DAA regimens were SOF+RBV (24 vs 13%) and SOF/LDV (65 vs 72%)

Until present evaluation, 80 vs 82% of patients completed therapy and the follow up period post treatment: a 94% SVR was obtained in both groups.

A 42% rate of adverse events were reported in both groups, and one HCV/HIV co-infected patient died during treatment related to a decompensated hepatic event.

Conclusion: This real life cohort with advanced liver disease evidenced a high treatment response rate and a favorable safety profile with a low rate of serious adverse events. No significant differences in performance were objectified between groups and related to HIV co-infection, as previous mentioned in literature.

Abstract P_18

Elderly patients as a difficult-to-treat subgroup? – real-world Portuguese study on the effectiveness of direct-acting antivirals for hepatitis C chronic infection

Alves J1, Miranda A1, Baptista T1, Nina J1, Ventura F1, Peres S1, Aldir I1, Borges F1, Antunes I1, Campos M2, Pereira J3, Mansinho K1

1Infectious Diseases and Tropical Medicine Department, Hospital De Egas Moniz, Chlo, Lisboa, Portugal, 2Emergency Department, Hospital De São Franscisco Xavier, CHLO, Lisboa, Portugal, 3Internal Medicine Department, Hospital De Egas Moniz, Chlo, Lisboa, Portugal

Background: Elderly patients represent a significant and rapidly increasing proportion of patients infected with chronic HCV infection. Previous studies specifically assessing whether advanced age is an independent predictor of sustained virologic response (SVR) to HCV therapy have produced conflicting results. We describe our experience on treating HCV-infected people, irrespective of their age band, aiming to clarify whether or not elderly should still be faced as a difficult-to-treat subgroup.

Materials and Methods: A real-world retrospective and longitudinal study, including 405 HCV-infected patients who were started, adhered and completed treatment with direct-acting antivirals (DAAs), in a Lisbon’s hospital, between January 2015 and April 2017, and in whom a virological assessment was performed 12 weeks after treatment completion. Elderly people was stratified as being 50-64 or ≥65 years old. Sustained virological response 12 weeks after treatment (SVR12) was ascertained globally and subanalysed according to different age subgroups (<50, 50-64 and ≥65 years old) and some background host and viral cofactors. Statistics were performed using SPSS® v10.0 and Microsoft Excel®2016.
Results: Our 405 people cohort consisted on 302 (75%) male, 281 (69%) parenteraly transmitted HCV-infection, 269 (66%) HIV/HCV coinfected, and 171 (42%) elderly people, of whom 19 (4,7%) had ≥65 years old. Global SVR12 rate was 97,5%. Failure treatment cases corresponded to 10 patients who had a viral load relapse by the 12 week follow-up, even though all had been documented with an indetectable ARN-HCV by the end of treatment period. Overall unadjusted SVR12 rates were similar across all age bands: 98,7%; 96,0% and 94,7%, in those with <50, 50-64 and ≥65 years old, respectively (χ²=3,36; p<0,05). No age-related trend response was found after baseline ARN-HCV, treatment regimen and HIV/HCV coinfection stratification (χ²<9,48; p<0,05). In the genotype subanalysis, a trend was observed towards a lower SVR12 in those with ≥65 years old, with genotype 4 [SVR12=50,0% (n=2); χ²=12,94; p<0,05]. In a multivariable logistic regression model, age was not an independent predictor of SVR12 after adjusting for these potential confounders (p=0.078).

Conclusions: Our real-world clinical experience supports the global effectiveness of DAAAs among all age groups, including elderly HCV-infected patients and likewise extended to our oldest age category (≥65 years). Young and elderly patients had equivalent SVR rates, irrespective of their host and virologic baseline characteristics, whereby should not be age of itself a barrier to initiate a DAA treatment. Genotype 4 subanalysis was deeply influenced by a striking non-representative sample (n=2) that should be cautiously interpreted. Other factors, such as serious comorbidities, liver fibrosis staging and life-expectancy based on chronic liver disease must be accounted for HCV treatment decisions, rather than age.

Abstract P_19

Monitoring inflammatory markers during DAA treatment of co-infected HCV/HIV patients

Duarte F1, Correia de Abreu R1, Neves I

1Hospital Pedro Hispano, Unidade Local De Saúde De Matosinhos, EPE, Senhora Da Hora, Portugal

Background: Since 2015, with the approval of 2nd and 3rd generation direct antiviral agents (DAA) the treatment for hepatitis C virus (HCV) in Portugal improved substantially. Few information is available about the evolution of inflammatory markers during HCV-infection treatment with these new agents.

Methods: An analysis of 29 co-infected patients (HCV/HIV) that completed DAA treatment (12/24w according to FibroScan® score) between Mar-Dec 2015 from a total of 37 treated. Biochemical changes were assessed (total, LDL and HDL cholesterol, triglycerides, creatinine, bilirubin, GGT, ALT, AST, albumin, alpha-fetoprotein, TCD4+ count, HIV and HCV-RNAs) at week 4, 12 and 24 of treatment and 3 months after. Comparison of groups was performed and descriptive analysis was used to perform an exploratory analysis of the data, for the total sample and by duration of treatment. Longitudinal analysis of inflammatory markers was performed using linear mixed effect models. Time (ref.week0), group (ref.week12) and time/group as fixed effects, subjects as random. Significance level alpha=0.05.

Results: Mostly men (93%), 46.3±5.8yo, virally suppressed, average of 662.8±305 TCD4+/mL. Most (82.8%) GT1, 6.9% GT3a, 10.3% GT4c/4d. 27 under sofosbuvir/ledipasvir and 2+ribavirin (GT3). HCV-RNA 4058560±4579640UI/mL (no difference between groups); FibroScan® 7.2kPa (IQR 3.4) and 15.1kPa (IQR 9.1) in group 12w and 24w respectively. Alpha-fetoprotein (aFP) revealed a significant reduction in both groups, more pronounced in 24w-group (time/group factor, p<0.001) being verified a significant increase of T CD4+ cell count (p=0.021). A significant reduction found for GGT, ALT and AST (p<0.001) for time factor; albumin increased significantly between...
Abstract P_20

Non-invasive hepatic fibrosis seromarkers evolution after DAA treatment in a cohort of patients with advanced fibrosis and cirrhosis

Cardoso M1, Fonseca M2, Miranda A2, Baptista T2, Nina J3, Ventura F1, Peres S1, Aldir I1, Borges P3, Antunes I2, Campos M2, Pereira J2, Mansinho K2

1Serviço De Infeccologia E Medicina Tropical - Hospital Egas Moniz - Centro Hospitalar De Lisboa Ocidental, Lisboa, Portugal, 2Serviço de Medicina Interna - Hospital Egas Moniz - Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal, 3Serviço de Urgência - Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal

Background: The accurate stage of hepatic fibrosis is an important predictor of disease progression and it determines what antiviral regimen is more suitable for patients with chronic hepatitis C infection. Although hepatic biopsy and liver histology findings is still considered as the gold standard method to evaluate fibrosis, non-invasive seromarkers are being used more frequently facing the favorable clinical correlation found.

Direct acting antiviral (DAA) treatment efficacy has dramatically improved response rates and hepatic disease prognosis.

Patients and Methods: HCV chronically infected patients, with or without HIV co-infection, were eligible to start DAA treatment during the period between 1st January 2015 and 30th April 2017. Demographic, epidemiological, clinical, virological and treatment response data was collected. Hepatic fibrosis was accessed by real time elastography together with APRI and FIB-4 serum biomarkers. Cirrhosis was considered for those with METAVIR F4 and for those with F3 plus high APRI or FIB-4 scores. Data was collected after individual clinical file query and statistical analysis performed by using Excel and SPSS version 15.0.

Results: During the study period, 537 HCV chronically infected patients were evaluated to start DAA treatment, 40% (N=215) of which presented with advanced fibrosis (F3) or cirrhosis (F4). Until present date, 75% of them (N=162) concluded HCV therapy and were clinical and laboratorial evaluated after a mean period of 24 weeks after treatment completion. Demographic and epidemiologic characterization (N=162) showed a male predominance (73%) and a mean age of 50 years. HCV characterization revealed a mean time since diagnosis of 15 years, parenteral transmission in 70 % of cases, CC IL28B polymorphism found in 33 % and 12% registered a baseline plasma RNA above 6,8 log10. Genotype prevalence distribution was: 63% G1; 3% G2; 19% G3; 16% G4 and 1% G6. Cirrhosis (F4) was found in 28% of patients. 64 percent of patients had HIV co-infection, who registered a mean baseline TCD4 count of 669 cel/mm3. A global sustained virologic response rate (SVR) of 94% was obtained (152/162). Laboratoratory parameters evolution were analysed before and after treatment showing: ALT > 41 UI/L in 84% vs 17%; AST >40 UI/L in 81% vs 13%; platelets <150x109/L in 43% vs 33%; total bilirubin >1,4 mg/dl in 15% vs 9% and INR > 1 in 67% vs 47% of patients.

Child Pugh score B/C was determined in 7% of patients before treatment and in 4% on follow up period and MELD score ≥ 10 was found in 13% vs 12% at the same time endpoints. Liver disease evaluating scores APRI (≥0,7) and FIB4 (≥3,25) performed at baseline and at follow up evaluation revealed: 61% vs 17% for APRI and 38% vs 14% for FIB4.

Abstracts
Conclusion: This cohort presented a high sustained virological response rate to DAA treatment. A favourable progression of laboratorial seromarkers and clinical scores was registered in an early stage after treatment conclusion. Important to notice is the fact that HCV eradication does not eliminate the indication for a regular screening of hepatocellular carcinoma.

Abstract P_21

Chronic hepatitis C treatment in mono-infected and HCV/HIV co-infected patients with direct acting antivirals in a real life setting

Tavares A1, Furtado I1, Horta A1, Gonçalves C1, Marques M1, Soeiro C1, Seabra J1, Gonçalves M1, Méndez J1, Sarmento e Castro R1

1Centro Hospitalar Do Porto, Porto, Portugal

Background: Several clinical trials have shown similar sustained virological response (SVR) rates in HCV mono and HCV/HIV co-infected patients treated for chronic hepatitis C (HCV) with DAAs.

Aim: To compare the efficacy and the impact of therapy with DAAs on clinical parameters between mono and HCV/HIV co-infected patients.

Methods: Prospective study of HCV mono and HCV/HIV co-infected patients treated with DAAs for 12 to 24 weeks. We analyzed the evolution of several characteristics and the SRV12 rates. Statistic analysis was done with SPSS version 23.0.

Results: Of the 364 patients included, 261 (71.7%) were HCV/HIV co-infected. Mean age was 51 years in the monoinfected group and 47 years in co-infected group (p=0.03). Men predominated in both groups (90.3% vs 87.4%); treatment experience and baseline fibrosis were similar between groups. 48/103 (46.6%) vs 111/261 (42.5%) were cirrhotic. Genotype 3 was more frequent in mono-infected patients (32% vs 11.1%; p<0.001) and genotype 1 in co-infected patients (52.4% vs 75.9%). The patients were treated with SOF+LDV (73.8% vs 87.4%), SOF+RBV (10.7% vs 5.7%), SOF+DCV (3.9% vs 2.3%), pegIFN+SOF (11.7% vs 3.4%) and 3D (0% vs 3.3%).

Regarding the evolution of biochemical features there was an improvement in both groups of patients. In the follow-up, the transaminases normalized, the number of platelets was unchanged, also the albumin slightly increased. A reduction in liver fibrosis assessed with Fibroscan was found in HCV and co-infected HIV/HCV patients at baseline and 12 weeks follow-up. The global SVR12 rate was 95.1% in the HCV monoinfected group vs 94.6% in the HCV/HIV co-infected group (p = 0.8). The rate of SVR12 in G1 was 94.4% in HCV vs 96.5% in HCV/HIV (p=0.45) and in G3 the SVR12 was 100% in HCV vs 86.2% in HCV/HIV (p=0.043). Linear regression showed that the only factor associated with poor response was albumin <3.5 mg/dl in co-infected patients.

Conclusion: We registered the positive impact of therapy with DAAs on the clinical parameters and similar high rates of SVR12 in both groups. In our cohort, genotype 3 coinfected patients had worse results.
Abstract P_22

HCV/HIV co-infected patients: who is still left to treat in the era of DAA therapy?

Achega M1, Grácio R2, Valente R3, Miranda A4, Baptista T4, Nina J5, Ventura F6, Peres S7, Aldir f8, Borges f9, Antunes f10, Campos M11, Pereira J12, Mansinho K13

1Serviço de Medicina II - Hospital Prof. Dr. Fernando da Fonseca, Amadora, Portugal, 2Serviço de Medicina I - Centro Hospitalar de Leiria, Leiria, Portugal, 3Serviço de Medicina Interna - Hospital Beatriz Ângelo, Loures, Portugal, 4Serviço de Infeccologia e Medicina Tropical - Hospital de Egas Moniz – Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal, 5Serviço de Urgência – Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal, 6Serviço de Medicina 1 – Hospital de Egas Moniz - Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal

Background: Hepatitis C chronic infection is an important public health concern, with an estimated prevalence of 2-3% in the world, and 1,5% in Portugal. HCV/HIV co-infection accelerates the progression of hepatic fibrosis and results in a more aggressive course of liver disease. Therefore, treatment of HCV chronic infection results in a better prognosis to these patients. However, the rate of treatment of these patients is not 100%.

Material and Methods: HCV/HIV chronically infected patients regularly followed at our Infectious Diseases clinic were eligible to start DAA treatment during the period between 1st January 2015 and 30th April 2017. Data was collected after individual clinical file query and statistical analysis performed by using Excel 2016.

Results: From a pool of 444 HCV/HIV co-infected patients, we had a total of 13 patients (3%) who were not eligible to engage direct acting antiviral (DAA) HCV treatment. Analysing those patients, we found out they were mostly male (85% vs 15%) with an average age of 44,5 years (± 5,1 years). All of them were intravenous illicit substance users. The HCV genotype was 1a in six patients, 1b in one patient and 3a in other six patients and the IL28b gene polymorphism was CC in four patients, CT in six patients, TT in one patient and unknown in one patient. The AST to Platelet Ratio Index (APRI) was calculated for all patients and 69% of them had an APRI superior to 0,7. The Fibrosis 4 Score was compatible with moderate and severe fibrosis in 62% of the patients. Fibrosis evaluation was determined by real-time elastography in 9 patients (31%=F2; 15,4%=F2/F3; 23%=F3). The average of CD4 count was 426 cells/mm3 and only two patients were below 200 cel/mm3. The CDC staging was C in 38,5% of the patients. About antiretroviral therapy (ART), 69% were on ART and 31% were not on ART. Only 46% of the patients had undetectable ARN HIV-1 viral load.

The reasons why those patients were not on HCV treatment, or proposed to treatment, were poor adherence to medical appointments (ten patients - 77%), active alcohol abuse (five patients - 38%), active illicit drug use (2 patients - 15%), and other medical conditions, such as decompensated psychiatric disease in one patient, active disseminated tuberculosis in another patient, and one patient waiting for surgery of a pleomorphic parotid adenoma, but probably planning to start treatment when appropriate.

Conclusion: Although we know co-infection of HIV/HCV accelerates the progression of hepatic fibrosis and results in a more aggressive course of liver disease, it is still impossible to have a 100% treatment rate of HCV infection. Only 3% of the total population of co-infected HIV/HCV did not engage to treatment, however the same group presents high risk of chronic hepatic disease and related complications. Those findings corroborate the need of a multidisciplinary approach to address these patient’s barriers to treatment.
Abstract P_23

Liver fibrosis after treatment with direct acting antivirals (DAAs) in HCV/HIV coinfected patients

Horta A1, Cipriano A1, Videira F1, R. de Valdoleiros S1, Soeiro C1, Furtado I1, Marques M1, Gonçalves C1, Abreu M1, Méndez J1, Sarmento e Castro R1

1Centro Hospitalar Do Porto, Porto, Portugal

Background: The main goal of chronic hepatitis C (CHC) treatment is to achieve sustained virologic response (SVR). Most studies suggest that SVR is associated with non-progression and even with regression of hepatic fibrosis and an improvement in survival and in quality of life.

Aim: Evaluation of the effect of HCV treatment with DAAs on the evolution of liver fibrosis in HCV/HIV coinfected patients.

Material and Methods: Prospective study of HIV/HCV coinfected patients treated with DAAs with regimens of 12 or 24 weeks. Liver fibrosis was evaluated with transient elastography (FibroScan®) at baseline and at 12, 24 and 48 weeks after therapy. Patients were randomized in three groups, according to fibrosis stage: F0-F2 <9.5kPa; F3: 9.5-12.5kPa; F4: ≥12.5kPa. The evolution of fibrosis was evaluated by paired analysis between the baseline and the 12, 24 and 48 post-treatment weeks. Genotype distribution was also considered in the analysis.

Results: Of the 261 patients included, 87.4% (n=228) were male, with a mean age of 47 years old (minimum 35, maximum 66). The acquisition of HCV was by intravenous drug use in 95.4%; sexual in 3.2% and unknow in 1.5%. G1 was the most frequent (76%, n=198), followed by G4 (12.6%), G3 (11.1%), and G2 (0.4%). Sofosbuvir and Ledispavir was used in 87.4%. Ribavirin was used in 33% (n=86) of patients. Of the evaluated patients, 42.5% (n=111) had cirrhosis (F4). RVS rate was 94.9%. Regarding HIV-infection at baseline, all patients were under antiretroviral therapy and 96.2% (n=250) had undetectable HIV-RNA. The mean CD4 cell count was 628/mm3. When analised the evolution of liver fibrosis, there was overall a decreased at post-treatment week 12 (16.54 kPa at the baseline vs 12.28 kPa p<0.001), sustained through weeks 24 and 48 post-treatment (11.50 kPa and 11.80 kPa, respectively). In patients with F0-F2, liver fibrosis decreased when comparing baseline to post-treatment week 12 (8.40 kPa vs 6.74 kPa p<0.001), also sustained through weeks 24 and 48 (6.25 kPa and 5.96 kPa). In the group with F3, liver fibrosis decreased from baseline to post-treatment week 12 (10.51 kPa vs 7.42 kPa p<0.001), through weeks 24 and 48 (7.09 kPa and 6.74 kPa). The same tendency was found in F4 patients, from baseline to post-treatment follow-up week 12 (21.10 kPa vs 19.04 kPa p<0.001), also sustained through weeks 24 and 48 (15.23 kPa and 17.27 kPa).

We also found a significant liver fibrosis reduction in genotypes 1 and 3 (p <0.001). In genotype 4 this decline was only observed at 12 weeks after the end of treatment.

Conclusion: In our cohort, the treatment with DAAs was associated with a significant reduction in liver fibrosis, in coinfected patients. This improvement was more pronounced in patients with advanced fibrosis (F3 and F4) and sustained through weeks 24 to 48. These results were found in patients infected by genotypes 1. The number of G3 and G4 patients is too small to draw more conclusions.

Abstract P_24

Direct acting antiviral treatment in cirrhotic patients

Martins A1, Coutinho D1, Nunes S1, Velez J1, Freitas F1, Oliveira C1

1Centro Hospitalar Baixo Vouga - Infectious Diseases Department, Aveiro, Portugal

Background: The advent of direct-acting antivirals (DAAs) has revolutionized the treatment of hepatitis C, with global cure rates above 95%, thus allowing for the definitive elimination of interferon from therapeutic regimens. Eradication of HCV in patients with cirrhosis leads to reduced risk of hepatic decompensation and hepatocellular carcinoma (HCC) and, in those with decompensated cirrhosis, reduces the need for transplantation.
**Abstract P_25**

Real world data concerning rapid virological response and tolerability of DAA with/without IFN regimens in small cohort of HCV-infected patients

*Sargsyants N*

1Armenicum Clinical Center, Yerevan, Armenia

**Background:** In low- and middle-income countries where new directly acting antiviral agents (DAAs) are not yet available and health care budgets are not cover treatment expenses, a real life data about high efficacy and good tolerability especially in difficult-to-treat patients could be extremely important.

The aim of our report is evaluation of virological response and adverse events on the different DAAs contain regimens.

**Materials and Methods:** 44 HCV-infected patients from 18 to 73 years old (57% male, 48.3±14.2 years old, BMI 26.3±5.2, viral load from 1466 to 8897650 IU/ml) treated with DAA-contain regimens with/without IFN (9/35), choose according to EASL guidelines depend on genotype, clinical history and stage of fibrosis. IFN-free sofosbuvir (SOF) contain regimens were following: SOF+RBV in 5 patients; SOF+DCV±RBV in 13 patients and SOF/LDV in 17 patients. Genotype distribution: genotype 1b – 52.3%, genotype 1b+2 – 6.8%, genotype 2 – 13.6%, genotype 3 – 25.0%. Nine patients previously treated with PEG-IFNα and RBV: one patient null-responder with Child-Pugh C cirrhosis, genotype1b and seven relapers (four with genotype 3, three of them with cirrhosis; two with genotype 2 Child-Pugh A and C cirrhosis; one with Child-Pugh A cirrhosis, genotype1b).


All patients were checked on 4 week of the treatment and for SVR 12 by Abbott Real-Time PCR. AFP checked in all patients with F 3 and 4.
Results: Prevalence of F4 was 47.7% (among them Child-Pugh C cirrhosis 6 patients and B - 5), F3 – 4.5%, F3 – 6.8%. AFP in average 14.1±5.7ng/mL (range from 2.0 to 132.0). Minimal ferritin level was 7.3, maximal – 855.84ng/mL. On week 4 of treatment 41 patients (93%) were undetectable or <12 IU/ml by Abbott Real-Time PCR; HCV was detectable in two male patients with F4 – 15 IU/ml (genotype 1b+2, AFP=26.1) and 114 IU/ml (genotype 1b, AFP=132.5) and one diabetic female with F2 – 43 IU/ml (genotype 1b). In two patients with decompensated cirrhosis (female, 65 years old, experienced, genotype 1b, SOF/LDV and male 40 years old, experienced, genotype 2, SOF+RBV) we observed first episode of severe encephalopathy with normal creatinine/urea level, resolved in 4-5 days in ICU, during which treatment was temporary interrupted. High total/indirect bilirubin enrolled in two female patients (153.6/132.4umol/L, 77.1/68.1 respectively) with decompensated cirrhosis, genotype3, received SOF+RBV at 16-20 week. 4 cases of moderate anemia with RBV contain regimens, managed by RBV dose decreasing or/and erythropoietin. In compensated patients, DAAs well tolerated with non-expressed weakness in few cases and one case of nausea. 27 patients reached SVR 12 checking point – all with SVR.

Conclusions: New DAAs-contain regimens characterized by undetectable HCV at 4 week of treatment by Abbott Real-Time PCR in 93% of patients. Patients with decompensated cirrhosis remain difficult-to-treat population and their treatment required close monitoring.

Abstract P_26

Real-life data of two years of therapy with direct acting antivirals in the south of Portugal

Casella M¹, Teixeira C², Vale F¹, Dantas E², Ascenção B¹, Luís N¹, Gonçalves C¹, Brito A¹, Sá J¹, Cardoso C³, Alves A², Oliveira A², Poças J¹

¹Serviço de Doenças Infeciosas, Hospital De São Bernardo - Centro Hospitalar De Setúbal, Setúbal, Portugal. ²Serviço de Gastroenterologia, Hospital De São Bernardo - Centro Hospitalar De Setúbal, Setúbal, Portugal

Background: Infection with HCV is an important cause of liver disease, cirrhosis and hepatocellular carcinoma, affecting 170 million people worldwide, and 1.5% of the Portuguese population. Since early 2015 there is in Portugal a policy of universal access to the new direct acting antivirals (DAAs). According to clinical trials, treatment with DAAs provides high cure rates (>90%). At the beginning of January 2017, INFARMED (National Authority in Medications and Healthcare Products) reported a national Sustained Virological Response (SVR) rate of 96.5%.

In this study we aimed to evaluate the efficacy of new DAAs in the treatment of chronic HCV infection, to characterize the population submitted to this therapy, and to identify major issues in treating real-life population.

Materials and Methods: Retrospective, observational study of the population from a hospital in the south of Portugal who obtained authorization for therapy with DAAs between January 2015 and December 2016. Patients were under follow up at either the Infectious Diseases or Gastroenterology Departments. Data was collected through the consultation of individual clinical files and statistical analysis performed using Excel 2013.

Results: During the two year period studied, 641 patients had therapy with DAAs approved by the INFARMED. Demographic characterization of the population showed male predominance (n=509, 79.4%) with a mean age of 49 years old. 203 (31.7%) patients were co-infected with HIV.
According to genotype distribution the majority of patients had genotype 1 infection (451 patients, 70.4%), followed by genotype 3 (123, 19.2%) and genotype 4 (63, 9.8%). Only 4 patients (0.6%) were infected with genotype 2 virus. Hepatic fibrosis was evaluated by hepatic elastography (METAVIR score), showing that most patients had moderate fibrosis (F2: 265, 41.3%; and F3: 227, 35.4%) and 139 (21.7%) patients were already cirrhotic. The vast majority were naïve for HCV treatment (n=406, 63.3%).

99% of patients were prescribed a Sofosbuvir (SOF) containing regimen (SOF with Ledipasvir as co-formulation in 83.5%; SOF plus Ribavirin in 13.4%; SOF plus Daclatasvir in 2.7%; SOF plus Simeprevir in 0.5%), and recently 5 patients (1%) had Dasabuvir/Ombitasvir + Paritaprevir + Ritonavir prescribed. To the present date, 531 patients (82%) completed treatment and were evaluated 12 weeks after treatment completion, revealing a global SVR rate of 93.6% (n=497). Both co-infected (93.7%) and mono-infected (93.3%) patients showed similar response rates. Of the 16 patients that didn’t respond to therapy, only 3 were co-infected with HIV, and 9 (56.3%) were infected with genotype 3. Cirrhotic patients represent 37.5% (n=6) of non-responders. Four patients died after initiating DAA treatment from complications related to decompensated liver disease, and 32 patients (4.9%) were lost to follow up, 11 during therapy and 21 after completing treatment.

Conclusion: The results obtained in our study showed that the treatment with DAAs is associated with very high SVR rates (93%), similarly to clinical trials. No significant difference was found between co-infected or mono-infected patients. One major issue with our real-life patients was the lack of adherence to therapy and follow-up, mainly associated with a past history of drug abuse, alcoholism or psychiatric disorder.

Abstract P_27

Renal impact of combining sofosbusvir/ledipasvir with antiretroviral regimens containing tenofovir and boosted protease inhibitors – a real world experience

Felipe da Silva J1, Baptista T1, Miranda A1, Peres S1, Antunes I1, Ventura F1, Borges F1, Nina J1, Pereira J1, Campos M1, Aldir I1, Mansinho K1

1Centro Hospitalar De Lisboa Ocidental, Lisbon, Portugal

The association of sofosbuvir/ledipasvir increases tenofovir concentration when a pharmacokinetic enhancer is present on an antiretroviral regimen, so caution is recommended and frequent renal function monitoring advised when combining these drugs.

A retrospective analysis of a cohort of 122 HIV/VHC coinfected patients, from a central hospital, under such a combination was performed addressing possible undesirable renal effects.

There was a predominance of males (n=98 – 80%) between 45 and 54 years old. The average time since HCV diagnosis was 15.5 years and most patients had grade 2 fibrosis (transient hepatic elastography). The majority of patients were HCV treatment naïve (n=90 - 74%). The average TCD4 count before HCV treatment was 566 cells/uL and 109 (89%) of patients had undetectable viral load (< 20 copies/ml). All patients were under tenofovir and a boosted protease inhibitor with ritonavir.

The average creatinine level before HCV treatment was 0.87 mg/dl and 0.92 mg/dl at the end of treatment. At the time of this analysis 10 patients were still on treatment.

Twelve patients (9.8%) had an elevated (over 1.2 mg/dl) creatinine level after treatment (average 1.4 mg/dl). They had an average estimated creatinine clearance (CrCl Cockroft-Gault) of 84.3 ml/min (range 68 to 107 ml/min) prior to treatment and of 69.4 ml/min (range 41 to 91 ml/min) after
treatment, resulting in an average loss of 14.9 ml/min.
Three patients had an elevated creatinine level prior to treatment (1.22 to 1.51 mg/dL – average 1.38 mg/dL), an average CrCl of 70 ml/min (range 68 to 72 ml/min). Only one of these patients, who also had reumathoid arthritis, suffered a decrease in CrCl after treatment (of 15 ml/min).

Only 3 patients remained with a decreased CrCl 6 months after treatment. One patient was under primary prophylaxis with TMP/SMX (CrCl 48 ml/min), one had reumathoid arthritis (CrCl 55 ml/min) but one had no comorbidities or treatments justifying renal impairment (CrCl 48 ml/min). None had urine protein loss over 0.25 g/L or CrCl below 60 ml/min prior to treatment.

After treatment there was mild urine protein loss (traces to 0.8 g/L) in 8 (67%) of these patients, no protein loss in 2 and no information for 2 patients. There was no consistent data regarding phosphate concentrations in plasma or urine to make considerations.

None of the 12 patients changed their antiretroviral regimen during hepatitis C treatment.

Conclusion: In this cohort no serious renal outcomes were present. A minority (9.8%) of patients experienced an increase in creatinine level that resulted in an average decrease in the estimated creatinine clearance of 14.9 ml/min. Six months after treatment, only two (1.6%) patients, with no significant comorbidities, had an estimated creatinine clearance below 50 mL/min.

Abstract P_28

Impact of ledipasvir/sofosbuvir treatment on co-infected HIV patients treated with tenofovir combined with a boosted protease inhibitor – real life data from Infectious Diseases Department in Hospital de Curry Cabral, CHLC, Lisbon, Portugal

Simões P1, Pinheiro H1, Caeiro A1, Garrote A1, Gonçalves R1, Betkova S1, Ramirez F1, Cabo J1, Alves L1, Póvoas D1, Seixas D1, Cardoso S1, Lino S1, Cardoso O1, Martins T1, Garrido N1, Manata M1, Maltez F1

1Centro Hospitalar de Lisboa Central, Lisboa, Portugal

Background: The co-formulation sofosbuvir/ledispavir (SOF/LED) has been shown to increase exposure to tenofovir, especially when used together with an HIV regimen containing tenofovir disoproxil fumarate (TDF) and a pharmacokinetic enhancer (ritonavir or cobicistate). The safety of TDF in the therapeutic context of SOF/LED and a pharmacokinetic enhancer has not been established, and potential risks should be considered, especially in patients with an increased risk of renal dysfunction.

Methods: Observational study among a co-infected cohort treated with an ARV regimen including TDF and a boosted protease inhibitor (PI) that started HCV treatment with SOF/LED, between January 1st 2015 and Jan 31st 2017. Data on demographic, clinical and virological features was collected by analysis of clinical files.

Results: A total of 160 patients were treated with TDF, from which 74 with SOF/LDV and an antiretroviral regimen that included a boosted PI, 32 on DRV/r, 24 on LPV/r, 16 on ATV/r, one on SQV/r and one on FPV/r. Mean age was 47 years old, 72% of males. Relating to the HIV infection 84% of the patients had undetectable viral load (<20 cps/mL) at treatment start, with only four patients with loads above 100 cps/mL, with a median count of 519 T CD4+ cells/µL (113-1570). Treatment was planned for 12 weeks in 70% (52) of patients, according to liver fibrosis stage. At baseline two patients had CKD stage IIIa, one
died (car accident) after week 8, and the other one switched ARV regimen by week 8 to a regimen with no TDF (RAL + DRV/r), reaching the end of the treatment with an eGFR>60 mL/min (69.5). Of the remaining 72 patients, 2 presented worsening renal clearance, with eGFR<60 mL/min, noticeable at week 2, with one recovering by week 4 with no need to change ARV, and the other one changing it by week 8, switching the backbone (TDF/FTC to ABC/3TC) but maintaining the boosted PI, with a recovery of the eGFR by the end of the treatment. From the 58 patients with available data at week 12 post-treatment, all but one had sustained virological response.

Conclusion: According to our data, SOF/LDV did not have a major negative and permanent impact in patients on TDF and a boosted PI. Need for antiretroviral regimen change was observed in only two patients, which resulted in improvement of renal function parameters. In this population, especially if other risk factors for renal impairment are present, renal function must be carefully and regularly monitored.

Abstract P_29

Genotype 4 infection in a Portuguese cohort of HCV infected patients with and without HIV co-infection: real life experience with sofosbuvir/ledipasvir regimen

Brogueira P1, Miranda A1, Baptista T1, Nina J1, Ventura F1, Peres S1, Aldir I1, Borges F1, Antunes I1, Campos M2, Pereira J1, Mansinho K1

1Serviço De Infeccologia E Medicina Tropical - Hospital Egas Moniz - Centro Hospitalar De Lisboa Ocidental, Lisboa, Portugal; 2Serviço de Urgência - Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal; 3Serviço de Medicina Interna - Centro Hospitalar de Lisboa Ocidental, Lisboa, Portugal

Background: HCV genotype 4 infection has an estimated prevalence of 10-20% worldwide. In Portugal its incidence reaches 7%. The high rates of cure demonstrated in the DAAs era brought the need to well characterize genotype 4 infection in terms of its epidemiology, natural history and response to treatment in a real life experience basis, namely with the combined oral Sofosbuvir/Ledipasvir regimen which proved high rates of cure in clinical trials.

Materials and Methods: At our Infectious Disease Center, since 1st January 2015 until 30th April 2017, 537 patients were eligible to engage HCV treatment with DAA regimens. Inclusion criteria included all chronically HCV infected patients, with or without HIV infection, followed at our Service, and proposed to DAAs treatment. Epidemiological, demographic, clinical, laboratorial and therapeutic data was collected. Data analysis was performed by using Microsoft Excel 2010.

Results: Of the 537 patients proposed for DAA treatment, 342 patients were HIV co-infected (64%) and 195 were HCV monoinfected (36%). The global prevalence of HCV genotype 4 was 19% (n=103), 21% in co-infected (HIV/HCV) vs 15% in HCV monoinfected patients. The 103 patients with genotype 4 infection included 73 (71%) co-infected with HIV; of these 68% have a TCD4+ cell count > 500 cells/µL, all of them under cART with viral suppression.

The proposed treatment for genotype 4 HCV infection was SOF/LED in 97% of patients (n=98), 70 co-infected and 28 HCV monoinfected. Five patients engaged treatment with other regimens. The demographic analysis of co-infected vs HCV monoinfected patients proposed for SOF/LDV regimen revealed: male gender 74 vs 73%, mean age 46 vs 51 years old, injectable drug use being the most frequent route of transmission 49 vs 47%, mean time since diagnosis 15 vs 9 years. Chronic liver disease stage was Child-Pugh A in 92 vs 100%; Meld < 9 in 84 vs 87%. Serum markers of fibrosis: FIB4 > 3.25 in 18 vs 23% and APRI > 0.7 in 47 vs 43%. Real time elastography was performed and revealed fibrosis stage ≤ F2 in 41 vs 30%. Stage F4 was detected in five co-infected patients (7%) vs one (3%) monoinfected.

At the present date, 58 co-infected vs 21 monoinfected patients ended treatment with Sofosbuvir/Ledipasvir regimen. Of these, 46 vs 18 patients were evaluated after 12 weeks performing a preliminary sustained virological response 100% in co-infected vs 83% in monoinfected patients. There was one death due to hepatocellular carcinoma and one patient lost to follow up in the co-infected group. There were three recurrences in the monoinfected group vs none in co-infected patients.
Conclusions: Our cohort reveals a genotype 4 prevalence above that estimated for general population, especially in the HIV co-infected patients reaching 21%. This real-life clinical practice analysis revealed an on treatment sustained virological response rate at week twelve of 100% in the co-infected versus 83% in HCV mono-infected patients treated with Sofosbuvir/Ledipasvir. The co-infected patients have an earlier diagnosis of HCV infection, as they were younger and presented with HCV infection at a longer period of time.

Abstract P_30

Chronic hepatitis C treatment failure with direct-acting antivirals in a cohort of HCV-HIV co-infected patients in the Infectious Diseases Department of Hospital de Curry Cabral – CHLC, Lisbon, Portugal

Pinheiro H¹, Simões P¹, Garrote A², Caeiro A¹, Gonçalves R¹, Betkova S¹, Ramirez F¹, Cabo J¹, Alves L¹, Póvoas D¹, Seixas D¹, Cardoso S¹, Lino S¹, Cardoso O¹, Martins T¹, Garrido N¹, Manata M¹, Maltez F¹

¹Infectious Disease Department, Hospital de Curry Cabral - CHLC, Lisbon, Portugal

Evidence over the past years have shown that patients with chronic hepatitis C (HCV) co-infected with HIV did not respond as well to HCV therapy as mono-infected patients. Direct acting antivirals (DAA) are changing the treatment of HCV and its efficacy is now similar in these groups. As DAA gain widespread use, the number of patients who fail treatment will increase. Information about patient characteristics helps to identify patients at high risk of failure. We present nine patients who failed treatment and we aim to highlight the need for research to determine alternative strategies. All HCV/HIV co-infected patients who received and completed treatment at our institution from January 2015 were analyzed. Viral loads were recorded during treatment and on follow up (FU) at 12, 24 weeks and 1 year after treatment. Data related to patient demographics, HCV/HIV infection, and previous therapies, was collected until April 2017 to identify prevalent risk factors for treatment failure. A total of two hundred and twenty nine HCV/HIV-1 co-infected patients, already under antiretroviral therapy, completed treatment for 12 or 24 weeks. Nine patients (3.9%) showed virological failure at some point of the treatment. Seven (77.8%) were male and two patients were female (22.2%). Mean age was 50 years (range, 39-59). All nine patients had HIV-RNA undetectable at baseline, with a mean CD4 count of 630 (range, 242-860), and only three patients (33%) had detectable viral load at FU. The mean HCV-RNA copies before treatment was 6,38 log UI/ml (range, 5.69-7.06) and five (56%) patients had over 1 million IU/mL HCV RNA. Six (67%) patients were naive while three patients (33%) were treatment-experienced with pegylated-interferon (PEG) and ribavirine (RBV) (2 non-responders; 1 relapsed). Two patients (22%) had HCV genotype 1a (treated with sofosbuvir [SOF]/ledipasvir [LED] for 12 weeks); one patient (11%) had HCV genotype 2 (treated with SOF/RBV for 12 weeks); three patients (33%) had HCV genotype 3 (one treated with SOF/Ledipasvir for 12 weeks and two treated for 24 weeks either with SOF/LED + RBV or SOF/RBV); three patients (33%) had HCV genotype 4 (one treated with SOF/LED for 12 weeks and two were treatment-experienced retreated for 24 weeks with SOF/daclatasvir [DCL] or SOF/LED). Four patients (44%) patients had compensated liver cirrhosis (F3-F4) and five patients (65%) had F1-F2 as determined by Elastography. All patients treated for 12 weeks (5 patients, 56%) had treatment response at the end of the treatment, but later relapsed at the 12 or 24 week FU. Four patients (44%) were treated for 24 weeks; one patient had virological failure at the end of treatment period, two relapsed at 24 week FU and one patient only relapsed at one year FU. Despite for some cases the failure might be attributable to the inadequacy of DAA regimen (e.g. twelve-week treatment in cirrhotic patients or SOF/LED in genotype 3) our results show that for most patients other factors might be implied. None of the characteristics analyzed in our group of patients seems to be shared with all patient with failure.
Sustained virological response and serum biomarkers evolution with chronic hepatitis C treatment in HIV co-infection – A real life experience in the Infectious Diseases Department in Hospital de Curry Cabral – CHLC, Lisbon, Portugal


**1Hospital Curry Cabral- Centro Hospitalar Lisboa Central, Lisboa, Portugal**

**Background and Aims:** Hepatitis C virus (HCV) infection is one of the main causes of chronic liver disease worldwide. The prevalence of this disease is high among HIV-infected patients, since they are transmitted in similar ways, and they have a much more rapid course of their hepatitis C disease (to cirrhosis and hepatocellular carcinoma), even under antiretroviral therapy (ART). The introduction of the new HCV direct-acting antivirals (DAAs) capable of curing HCV has generated major enthusiasm and interest for the treatment, especially in persons co-infected with HIV. The aim of this study is to evaluate the sustained virological response and serum biomarkers in a real-life setting.

**Materials and Methods:** An observational retrospective study conducted in an Infectious Disease department, including all HIV and HCV-infected patients starting treatment with DAAs between January 1st 2015 and January 31st 2017. Data was collected by review of clinical files until April 1st 2017. Liver fibrosis was evaluated by indirect methods (real time elastography, ultrasonography and biochemical markers).

**Results:** 416 patients started treatment with DAAs. 300 (72.12%) were HIV and HCV coinfected: 227 (75.67%) male, 73 (24.33%) female; aged 32-75 (average 47.51) years old; genotype (Gt) distribution was: Gt1- 190 (63%), Gt2- 5 (2%), Gt3- 48 (16%) and Gt4- 57 (19%).

Stage F3 and F4 by METAVIR were present in 28% of the patients (84/300). Regimens used were SOF/LDV 78.67% (236), SOF/LDV + RBV 6.33% (19), SOF/RBV 11% (33), SOF/DCV 1.67% (5); SOF/DCV + RBV 0.33% (1); 3D + RBV 1.33 % (4) and 3D 0.67% (2). Following the EASL guidelines, the duration of treatment was 8, 12, 16 or 24 weeks, depending on genotype, fibrosis stage and history of previous treatment. Sustained virological response 12 weeks after treatment completion (SVR12) was present in 232 patients and 15 patients presented virologic failure; 5 gave up treatment and 5 died. SVR 24 weeks after treatment was evaluated in 201 (67%): 193 (96%) had SVR24 and 8 (4%) had treatment failure. Virologic evaluation at one year after end of treatment was available for 114 patients and 107 (94%) had SVR (SVR48). Before treatment the average of APRI score was 1.67 and 0.52 on the end of the treatment. The average of FIB-4 score, before treatment, was 2.895 and 1.79 on the end of the treatment.

**Conclusions:** HCV treatment with DAAs showed high efficacy, even in patients with HIV/HCV co-infection, with SVR rate >95% consistent with data from clinical trials. The APRI and FIB-4 scores are a useful tool to exclude significant liver fibrosis and cirrhosis. They are important non-invasive biomarkers, which were significantly associated with mortality. In our study a decrease in both scores values was observed on the end of the treatment and sustained on SVR12, confirming the improvement of liver function.
Abstract P_32

Detection and monitoring of hepatitis B e antigen and hepatitis B virus DNA among chronic hepatitis B carriers: a direct appraisal for viral infectivity

Islam S1, Bhuiyan A1, Jahan M1, Tabassum S1

1Department of Virology, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh

Background: Hepatitis B virus (HBV) infection is one of the most prevalent causes of viral hepatitis with potentially life-threatening consequences in human. Among the Chronic HBV patients, detection and monitoring of Hepatitis B e antigen (HBeAg) and HBV DNA are vital to assess viral replication, infectivity and prognostic activities. Thus, the present study was undertaken to evaluate the sero-prevalence of HBeAg and to determine its association with Gender/Age category and HBV DNA levels among Chronic HBV carriers Bangladeshi population in a tertiary health care settings.

Materials and Methods: This laboratory based descriptive cross-sectional study was conducted on Chronic HBV infected carriers who were referred for Serology and Virological testing at the Department of Virology, Bangabandhu Sheikh Mujib Medical University (BSMMU) during the period of January 2014 to December 2015. Age/Gender particulars of the test samples were retrieved from the departmental registry/electronic data bases while HBeAg and HBV DNA viral load (VL) were tested using Enzyme linked immunoassay (EIA) and Real-time PCR technique respectively. Data analysis was performed using SPSS v20 and p value <0.05 was considered as statistically significant.

Results: A total of 25996 individuals were included in the study which comprised of 20435 (78.6 %) males and 5561 (21.4%) females with a male to female ratio of approximately 3.67:1. Their age ranged from 2 to 98 years with a mean age of 32.43±11.96 years. As per HBeAg sero-status of all the study participants, 22608 (87%) were found HBeAg negative and 3388 (13%) of individuals were HBeAg positive. All the study population were further categorized according to different HBV-DNA VL (in IU/ml) levels. Among the HBeAg negatives group (n=22608; 87%), 14161 (62.6%) were having HBV-DNA VL of <100 IU/ml and 2724 (12%) were having HBV-DNA VL of >20,000 IU/ml (p<0.001) whereas, in the HBeAg positives group (n=3388; 13%), 565 (16.7%) were having <100 IU/ml HBV-DNA VL and 2285 (67.4%) were having HBV-DNA VL of >20,000 IU/ml (p<0.0001). Irrespective of HBeAg sero-status, 51.8% of <10 years of age group and 19.3% of total study population has exhibited their HBV-DNA VL levels of >20,000 IU/ml. However HBV-DNA VL appeared to be increase with decrease in age (r = -0.15, p<0.001) among the HBeAg positives but no such relationship were observed among the HBeAg negative group. Year-wise analysis of all parameters showed no statistical difference between the individuals during the study period.

Conclusions: The present study has showed that, 13% HBeAg positives and 19.3% with high HBV-DNA VL indicates advanced viral infectivity among the Chronic HBV carriers. In addition, approximately 37% HBeAg negatives with detectable HBV-DNA VL indicates the viruses are replicating at various pace. Therefore, careful monitoring of both HBeAg and HBV-DNA VL are required to prevent irreversible and progressive liver diseases among Chronic HBV carriers.

Abstract P_33

Hepatic transient elastography in HIV-HCV co-infected patients after achieving sustained virologic response with direct acting antiviral agents

García-Fraile Fraile L1, de los Santos Gil I1, Sanz Sanz J1

1Hospital Universitario De La Princesa, Madrid, Spain

Introduction: After achieving HCV eradication with DAA, there is new information supporting liver fibrosis regression. Fibroscan® is performed along and after HCV treatment as it’s an economic, non-invasive, accessible and easy to use method to check liver fibrosis.
**Objectives:** We want to evaluate liver fibrosis evolution by HTE (Fibroscan®) one year after DAA-HCV IFN-free treatment was completed.

**Materials and Methods:** Retrospective study of HIV-HCV co-infected patients treated with DAA IFN-free regimens as outpatients in our Infectious Diseases Unit.

Description of baseline characteristics (qualitative: number and percentage, quantitative: med and IQR): gender, age at treatment, HCV genotype. Naïve and pretreated (specifying previous regimes). SVR12 rate. Baseline platelets, albumin, INR and MELD score, as well as HTE by Fibroscan® with fibrosis expressed in METAVIR groups (F0-F1: 2.5 to 6.9 kPa; F2: 7.0 to 9.4 kPa; F3: 9.5 to 12.4 kPa; F4 >12.5 kPa). Evolution of HTE one year after treatment and difference with baseline measure (globally and by baseline fibrosis groups). Statistical analysis by Pearson’s Chi-square test on SPSS22.0

**Results:** 157 patients: 42(26.8%) female; med age 51 (IQR 9) years; G1a 75(47.8%), G1b 20(12.7%), G2 1(0.6%), G3 22(14%), G4 37(23.6%), G1ns 1, G1+4 1. HCV-treatment naïve: 104(66.2%); Treatment experienced: IFN 6(3.8%), IFN/RBV 45(28.7%), IP+IFN/RBV 7(4.5%): 2SIM, 4BOC, 1TPV. Baseline med values: platelets 202000(88000) cel/mm3; Albumin 4.5(0.4) mg/dL; INR 1(0); MELD: 6(2). HTE 7.6(6.4)kPa. SVR12: 126/129(97.7%).

Considering the 76 patients who have ETH performed one year after finishing DAA (all of them with SVR12), their baseline HTE was: med 7.9(8.4)kPa (n= F0-1 29, F1 20, F3 7, F4 20); HTE one year after DAA: med 5.9(3.6)kPa (n=F0-1 49, F2 12, F3 2, F4 13). Difference in HTE med: -1.7(5.45)kPa. Pearson’sX2 p<0.001.

Analysis by group of fibrosis: F0-1: 29 patients, who evolve to F0-1: 16 and F2: 3; baseline med(IQR) HTE: 5.1(1.3)kPa, after 1st y. med 4.9(1.5)kPa, difference -2 (1.4)kPa. F2: 20 patients, who evolve to F0-1: 14, F2 4, F3 1 and F4 1; baseline med 8(1)kPa, after 1st y. med 6(3.2)kPa, difference -2.1 (2.6)kPa. F3: 7 patients who evolve to F0-1 5 and F2 2; baseline med 11(0.8)kPa, after 1st y. med 6.8(2.3)kPa, difference -4.9(1.4)kPa. F4: 20 patients who evolve to F0-1 4, F2 3, F3 1 and F4 12; baseline med 28.6(38.5)kPa, after 1st y. med 16.7(26.3)kPa, difference -8.8 (11.6)kPa

**Discussion:** Treatment with DAA has achieved excellent SVR rates in our co-infected patients, even though one fifth of them had baseline cirrhosis. However, cirrhosis was not severe in most patients as can be read from baseline parameters of MELD, platelets and albumin. HTE performed one year after finishing DAA shows an improvement, with statistically significant differences compared with baseline values. We observed HTE improvement is more important in those patients with worse baseline fibrosis values. HTE correspondence with analytical, ultrasound and functional parameters improvement have to be checked to get further conclusions.

DAA: direct acting antivirals; HTE: hepatic transient elastography; med: median; IQR: interquartile range; SVR12: sustained virologic response; IFN: interferon; RBV: ribavirine.

**Abstract P_34**

**Real-life effectiveness of sofosbuvir and ledipasvir/sofosbuvir regimens in HIV/HCV co-infected patients in the country of Georgia**

**Abutidze A¹, Chkhartishvili N', Bolokadze N', Sharvadze L¹,²,³, Gabunia P¹, Sartania M⁴, Dumbadze J⁵, Gongadze N⁶, Tsertsvadze T¹,²,³**

¹Infectious Diseases, AIDS And Clinical Immunology Research Center, Tbilisi, Georgia, ²Tbilisi State University, Tbilisi, Georgia, ³Hepatology clinic HEPA, Tbilisi, Georgia, ⁴Zugdidi Infectious Diseases Hospital, Zugdidi, Georgia, ⁵Infectious Diseases, AIDS and Tuberculosis Regional Center, Batumi, Georgia, ⁶Multiprofile Hospital Medicalcity, Kutaisi, Georgia

**Background:** In April 2015, in partnership with U.S. CDC and commitment from Gilead Sciences to donate direct acting antivirals (DAAs), Georgia launched national hepatitis C elimination program. The aim of this study was to assess real-life effectiveness of Sofosbuvir (SOF) and Ledipasvir/sofosbuvir (LDV/SOF) based regimens among HIV/HCV co-infected patients.
**Methods:** Study included 331 HIV/HCV co-infected patients, who started DAA based regimens between June 1, 2015 and June 30, 2016 and who were assessed for sustained virologic response (SVR) by December 31, 2016. SVR was defined as undetectable HCV RNA at least 12 weeks after completing treatment. Patient level data were extracted from the national AIDS health information system. Bivariate comparisons were tested using Pearson’s chi-square or Fisher’s exact tests.

**Results:** Among 331 persons the median age was 44 years, 299 (90.3%) were men and 248 (74.9%) were infected through injection drug use. The most frequent HCV genotype was 1 (125, 37.8%), followed by genotype 3 (107, 32.3%), genotype 2 (95, 28.7%) and genotype 4 (4, 1.2%). 98 (29.6%) patients were prescribed combination of SOF/pegilated interferon (PEG)/Ribavirin (RBV), 134 (40.5%) persons received SOF/RBV and 99 (29.9%) patients were treated with LDV/SOF with or without RBV. Overall SVR rate was 89.4% (296/331). All four patients with genotype 4 were cured, otherwise highest response was seen in genotype 3 - 94% compared to 87.2% in genotype 1, and 86.3% in genotype 2. LDV/SOF based regimens were more effective than SOF/PEG/RBV and SOF/RBV (99.0% vs. 89.8% vs. 82.1%, p<0.0001). This difference persisted in genotypes 1 and 2, but not in genotype 3.

**Conclusions:** DAA regimens used in our real-life cohort, primarily consisted of people with history of drug use, achieved high overall SVR rates. LDV/SOF-based treatment showed high efficacy in all genotypes and can be considered as an effective treatment option for HCV genotypes 2 and 3.

**Abstract P_35**

**Sofosbuvir-based treatment of HCV / HIV co-infection in economically limited setting**

**Shostakovych-Koretskaya L**1,2, **Sheveleva E**1, **Chuchalova I**2

1Dnipropetrovsk Medical Academy, Dnipro, Ukraine,
2Dnipropetrovsk Regional AIDS Center, Dnipro, Ukraine

**Background:** a new paradigm in HCV treatment with DAA regimens is successful for many categories of patients. However, the socio-economic limitations in some countries like Ukraine do not allow the widespread use interferon free regimens of HCV treatment, even in priority cohort of HCV / HIV Co-infected patients and special populations. In addition, the treatment of these categories of patients continues to be a challenge due to different issues: degree of immune system suppression, comorbidity, injecting drug use, drug–drug interactions with antiretroviral, treatment adherence. The aim of the study was to assess the effectiveness and safety of Sofosbuvir based regimen in combination with Pegylated interferon and Ribavirin in patients co-infected with HCV / HIV.

**Material and Methods:** This study enrolled 78 patients with HCV / HIV Co-infection. All patients were monitored by multidisciplinary team of Dnepropetrovsk Regional AIDS Center and Department of Infectious Diseases of Dnepropetrovsk Medical Academy. In accordance with design of the study this group of patients was prescribed a sofosbuvir based regimen (sofosbuvir+ pegylated interferon + ribavirin) for 12 weeks. Monitoring of therapy was consisted of the clinical and laboratory assessment on 4, 8, 12, weeks of treatment and 12 ,24 week after end-of treatment.

**Results:** Of 78 patients included 77.6% were male, 22.4% - female, mean age 42.8 years old. The genotype 1b was predominant (64.2 %)), G3- (30.7%), G2 (5,1%). Fibrosis: F≤, F2-61.3%, F3-4 -38.7%. By the time of the start of HCV therapy all patients were receiving ART. Comorbidity: history of TB (5), injecting drug users (26), HBV co-infection (3). 76 patients completed the course of treatment. Two patients discontinued treatment
and two patients had virology breakthrough on 8 week of treatment due poor adherence to treatment. Majority of patients (65%) showed HCV RNA <12 IU/mL after 4 weeks of therapy and all patients achieved undetectable HCV RNA after the 8th and 12th weeks of therapy. 74(95%) patients achieved SVR 12 and 24 weeks after treatment. The virological response in patients with progressive stage of fibrosis and in injecting drug users was the same as patients without risk factors. No patient had serious adverse events: anaemia, neutropenia, or other laboratory abnormalities.

Conclusions: The study showed significant efficacy and safety of sofosbuvir based regimen (sofosbuvir + pegylated interferon + ribavirin) for 12 weeks in HCV / HIV Co-infected patients with SVR 12 and 24 weeks in 95% patients. Positive results were observed in patients infected with HCV G1,G2 and G3, and progressive stage of fibrosis, as well as in presence of special conditions: injecting drug users, other comorbidities. Thus, sofosbuvir based regimen (sofosbuvir+ pegylated interferon + ribavirin) of therapy for 12 weeks in cohort of HCV / HIV Co-infected patients can be a good alternative choice in economically limited access to interferon-free regimens.

Abstract P_36
HCV treatment outcome among patients attending opioid substation therapy clinics

Kajaia M1, Gamezardashvili A1, Kamkamidze G1, Zarandia M1, Khatiashvili K1, Butsashvili M1

1Clinic Neolab, Tbilisi, Georgia

Background: Georgia is the country with high prevalence of HCV (estimated 7% of the adult population has antibodies to HCV). One of the main routes of infection transmission is injection drug use. Different studies show up to 92% seroprevalence among Georgian PWID. In 2015 Georgian Government started HCV elimination program with support of international partners. The aim of the study was to evaluate treatment outcome among patients receiving opioid substitution therapy (OST).

Methods: Patients with history of injection drug use and treated within HCV elimination program with direct acting antiviral agents with or without pegilated interferon were included in the study. Consecutive patients reporting ever using injection drugs treated in outpatient clinic NeoLab, which represents one of the main HCV treatment sites in Georgia responsible for HCV diagnostics and treatment, have been studied. The analysis was conducted for the patients who completed the treatment course and have their sustained viral response (SVR) data available at 12-24 weeks after the treatment.

Results: Overall, 465 patients with above described criteria were enrolled in the study. Out of these, majority were males (99.1%) with age range of 22-79 years (mean age was 45.3 years). 102 Patients reported being on OST. Overall SVR rate was 91.2%. By bivariate analysis there was no significant difference between SVR rates among patients being on OST and never receiving OST services (88.2% and 92%, respectively, P=0.16).

Conclusion: The study has shown that treatment outcome is similar among patients attending OST clinics with other patients with history of drug use.
Abstract P_37

Burden of hepatitis B infection among high risk populations in western Kenya

Karoney M

*Moi University, Eldoret, Kenya

Background: Hepatitis B infection causes significant morbidity and mortality worldwide. Chronic hepatitis B infection has been on the rise since 1990 with the highest prevalence reported in sub-Saharan Africa. Health care workers, intravenous drug users (IDU), commercial sex workers and men who have sex with men (MSM) are high risk groups for Hepatitis B. Due to similar routes of transmission, Human Immunodeficiency Virus (HIV) infected individuals are also at high risk for Hepatitis B infection.

Objectives: The present study was retrospective analysis of a care program effort to screen individuals for viral hepatitis.

Methods: This cross sectional study was carried out on high risk populations within western Kenya. Hepatitis B infection was defined as presence of Hepatitis B surface antigen (HBsAg) in persons who were screened. Populations included in this analysis include HIV infected persons, substance users, MSM, female sex workers and patients presenting with signs of liver disease. Data analysis was carried out using Stata version 13. Logistic regression was used to model the association between variables and HBV infection.

Results: The overall prevalence of Hepatitis B across all risk groups from this study was 10.7% (95% CI 8.6 to 12.8%) out of 860 persons screened. The MSM population had the highest HBV prevalence of 17.4% (95% CI 10.2 to 24.7%). Hepatitis B prevalence in the HIV infected population was 10.2% (95% CI 7.2 to 13.2%). Reported contact with jaundiced persons showed independent association with Hepatitis B infection after adjusting for other factors OR 1.98 (95% CI 1.25 to 3.14).

Conclusion: There is a high prevalence of HBV infection amongst high-risk population in western Kenya.

Abstract P_38

Association of HBV/D2 strains in HIV-positive eastern Indian patients during long-term HAART with high incidence of lamivudine-resistance and liver damages


1ICMR Virus Unit Kolkata, Kolkata, India, 2Calcutta School of Tropical Medicine, Kolkata, India

Introduction: Carrying the third largest population of HIV infection and the second largest population of chronic hepatitis B infection in the world, India is an important reservoir for HIV-hepatitis B virus (HBV) co-infection. Studies from the treatment-naive HIV-HBV co-infected individuals reveal a high frequency (11.3%) of chronic HBV infection among HIV-positive individuals from eastern India (EI) and the predominance of HBV sub-genotype D2 (HBV/D2) among the HBV variants. Since 2004, HIV-HBV co-infected patients, in India, have received Lamivudine (3TC) as the only anti-HBV agent being a part of highly-active anti-retroviral therapy (HAART). Tenofovir (TDF, the recommended drug for the treatment of HIV-HBV co-infection) has been introduced in India from 2013. The present study characterised the HBV infection and treatment response among chronic HBV infected HIV-positive patients from EI who did not show HBV DNA suppression during long-term HAART.

Materials and Methods: Among patients receiving 3TC as the sole anti-HBV treatment as a part of HAART in the Calcutta School of Tropical Medicine, the main ART centre in EI, thirty-six patients receiving long-term 3TC mono-therapy (mean duration 31.28±22.42 months) who did not show HBV DNA suppression (<20 IU/ml) were investigated. A few patients having TDF add-on to their treatment regimen were followed up for treatment response. Different virological parameters were studied: plasma HBV load quantification by real-time PCR, hepatitis B e antigen (HBeAg) detection by commercial ELISA, 3TC-resistant mutation analysis by direct sequencing of overlapping surface/polymerase
gene region of HBV genome and HBV genotype/sub-genotype determination by phylogenetic analysis. Descriptive statistics for continuous and categorical variables were employed.

**Results:** During long-term HAART, 36 HIV-HBV co-infected patients (mean age 36.91±6.99 years and mean CD4+ T-cell count 347.56±200.15 cells/mm3) showed the presence of virological failure to anti-HBV treatment as indicated by the high percentage of HBV DNA load >2000 IU/ml (55.56%), HBeAg positivity (88.89%) and high mean HBV viremia (4.31±1.51 logIU/ml). HBV/D2 (41.67%) strains predominated over the other HBV variants-HBV/A1 (38.88%), HBV/D3 (11.11%), HBV/D1 (5.56%) and HBV/C1 (2.78%). Remarkably, 50% of the HBV/D2 isolates showed the presence of 3TC-resistant mutations including the double (rtL180M+rtM204V) and triple (rtV173L+rtL180M+rtM204V) mutations in the HBV polymerase gene region. Moreover among these drug-resistant HBV/D2 strains, 87.5% had the 3TC-resistant triple mutation associated vaccine-escape mutations (sE164D+sI195M), which was significantly higher than that found in HBV/A1 strains (20%, P=0.023). The 3TC-resistant HBV/D2 strains demonstrated high mean HBV viremia (5.49±0.03logIU/ml) and the signs of liver damages (elevated mean serum alanine aminotransferase level, presence of cccDNA in serum and high fibrosis score). Upon TDF add-on, the 3TC-non-responder HBV/D2 strains (N=5) showed delayed HBV suppression as indicated by the persistence of 3TC-resistant mutations with an increase in mean HBV DNA load >2logIU/ml with time (4.55±3.68 logIU/ml in 21.33±1.53 months vs. 2.34±2.33logIU/ml in 10.33±5.03 months).

**Conclusions:** The high incidence of 3TC-resistant mutations and its associated potential vaccine-escape mutations in HBV/D2 strains, the major HBV variants among HAART experienced HIV-HBV co-infected patients in EI, retaining the high infectivity and increased liver damage potency, underscore the urgent requirement for the proper management of these mutants from clinical and public health perspectives.

---

**Abstract P_39**

**Overcoming barriers to chronic hepatitis C (CHC) treatment via liver elastography screening”**: A collaboration of a public-sector organization with community organization

**Petalidis I**, Malekian H

1Hellenic Liver Patients Association “prometheus”, Athens, Greece, 2Hellenic Liver Patients Association “prometheus”, Athens, Greece

**Background:** Hepatitis C (HCV) prevalence is very high among drug users in Greece. Most of these patients have never had their liver disease staged. Fibroscan™ (FS) is an excellent, point of care, non-invasive tool for measuring liver stiffness, which correlates closely with hepatic fibrosis. Elastography is not easily accessed by drug users: the cost is not covered by National Organization for Healthcare Services Provision (EOPYY) and many hepatology clinics are not equipped with the relevant apparatus. The clinically relevant cut-offs are 12 kPa, which allows access to direct acting antivirals (DAAs) in Greece. The study aims to implement FS screening for patients receiving Opioid Substitution Therapy in Greece, in order to overcome barriers and facilitate access to new Hepatitis C treatments.

**Materials and Methods:** HELPA “Prometheus” visited OKANA substitution units in Greece (5/2016-3/2017). Elastography was performed by HELPA “Prometheus” trained staff using FibroScan® 402 machine, by Echosens. Tests interpretation and the counseling of patients was implemented by OKANA medical doctors.

**Results:** HELPA “Prometheus” staff has visited 7 OKANA units in 3 Greek regions (Attica, Volos and Thessaloniki). During these visits, 487 people were tested by liver elastography (82% men, mean age of 45.4 years). The total number of patients that we approached was 487 among whom HCV infection was reported N=461 (94.7%), HIV/HCV coinfection was reported by 21/461(4.6%) while HBV/HCV by 5/461(1%).
Among HCV infected, 308 (66.8%), 38 (8.2%), 35 (7.6%) and 80 (17.4%) were F0-F1, F2, F3 and F4, respectively. All patients received medical counseling related to secondary prevention (life style changes, follow up recommendations etc). All F4 patients underwent further investigation by PCR and ultrasound and were referred to a public hepatology clinic in order to complete the procedure of EOPYY treatment approval.

**Conclusions:** Through the collaboration, a barrier to CHC treatment access was overcome for a large number of drug users. Awareness of disease stage and counseling opportunities was increased while identification of patients in treatment need essentially helps country’s efforts to eliminate HCV. Within this group there are significant numbers of patients at high risk of decompensation. While these patients may have significant comorbidities, including addiction, which limits access to specialist hospital services, it is important to overcome these challenges if we are to make an impact on HCV-related mortality.

**Abstract P_40**

Comorbidities and level of complexity among individuals with hepatitis C and HIV co-infection in a reference center in Brazil: A descriptive cohort study

**Quiroga Ferrufino R**, **Odongo F**, **De Matos M**, **Nastri A**, **Campos A**, **Mendes Correa M**

1 Hospital Das Clinicas Da Universidade De Sao Paulo, Sao Paulo, Brazil

**Background:** Chronic hepatitis C (CHC) disease can be complicated with comorbid conditions that may impact treatment eligibility and outcomes. Although virtually all HIV-HCV co-infected patients are eligible for HCV treatment with high rates of cure, only a minority of patients receive treatment in Brazil and in other parts of the world. Management of these comorbidities needs to be improved in order to improve HCV treatment outcomes in these individuals.

Objectives-In the current study, in a tertiary care center we aimed to describe the clinical characteristics of HIV-HCV co-infected patients who are yet to be treated and to estimate the prevalence of comorbidities among them.

**Materials and Methods:** We performed a retrospective cohort study at Hospital das Clinicas, which is a public and a reference center to treat of HIV-HCV in Sao Paulo, Brazil. We included all patients attended from January 2014 until January 2016. HCV comorbidities were initially identified using the International Classification of Disease version 10. The term comorbidity referred to any distinct clinical entity that has existed or that may occur during the course of HCV disease. Multiple claims of a comorbidity were counted only once.

**Results:** Among 2200 HCV chronic infected patients 452 (20.5%) were co-infected with HIV. Co-infected patients were predominantly male (65%) , the mean age was 49 (±8.8) years and 123 (27.2%) were cirrhotic patients ( biopsy or clinical evidence of advanced liver disease). Genotype distribution were as follows: genotype 1 (47.3%), genotype 2 (7.3%), genotype 3 (36.6%), genotype 4 (8.7%). Among all patients co-infected patients, 200 (44.2%) had received previous hepatitis C treatment, with either conventional interferon (n=44.22%) or peg-interferon (n=182, 91%) based therapy. Among them, 145, 48 and 5 five patients were submitted to one, two or three different treatments with these drugs and only 81 (40.5%) obtained sustained virologic (SVR). Regarding co-morbidities 115, 137, 102, 78, 13 and 5 patients presented 1, 2, 3, 4, 5, or 6 different co-morbidities at the same time, respectively. The most prevalent comorbidities identified in the HCV study population were, cardiovascular disease (23.9%), lipid metabolism disorders (18.3%), psychiatric disorders (12.3%), diabetes mellitus (11.2%), thyroid disorders (6.5%), renal disease (10.3%). Other conditions were also very frequent: dermatologic (20%), reumatologic (4.4%) and neurologic (2.4%). Extra-hepatic manifestations were also found (5.1%) .Further analyses are ongoing to adjust rates of comorbidities by age, gender and disease severity.

**Conclusions:** Our results indicates that comorbidities are common among HIV-HCV co-infected patients, and they may be important determinants for treatment. In our understanding, all efforts should be made in order to provide HCV treatment soon after HCV diagnosis in order to provide better clinical care to this population.
Abstract P_41

Continuum of HIV care and prevalence of co-infection of hepatitis C in patients deprived of their freedom in Mexico City (2014-2016)

Vargas Gonzalez H1, Zghaib Rivero M1, Badial Hernandez F1, Gonzalez Rodriguez A1

1Clínica Especializada Condesa, CDMX, Mexico

Background: In 2016, Mexico City about 30,000 men were in prison distributed throughout 8 centers with an HIV prevalence of 1.0% (1). Prison inmates that are diagnosed with HIV are then transferred to the Santa Martha Prison, where they are offered HAART and specialized medical care since 2009, including tests to diagnose hepatitis B, C and syphilis. However in Mexico there are no new generation drugs for the treatment of hepatitis C in the public health system.

Methods: Retrospective cohort study. We used data from the national System for Logistics Administration and Surveillance of ARV in Mexico (SALVAR in Spanish) up to the 31 of December, 2016 and the database of the HIV Programme in Prisons of Mexico City. Criteria for inclusion: Incarcerated male patients with HIV infection and co-infection with HCV (diagnosed with positive anti-HCV) in Mexico City during 2014-2016.

Results: Estimated prevalence of HIV/HCV co-infection in 2014 was 11.6% (22), in 2015 8.5% (16) and in 2016 4.9% (10) (Graph 1). During 2014-2016, there was a gradual increase in all percentages of the components of the HIV care cascade, the percentage of patients diagnosed in 2014 was 58.8%, in 2015 61.7% and in 2016 70.6%, the vast majority of patients linked and retained in medical care receive HAART, from 51.4% in 2014 to 68% in 2016. Currently, 55.7% of patients maintain undetectable viral load compared to 37.1% in 2014 and 50% in 2015 (Graph 2). For internal purposes of the "HIV Programme in Prisons of Mexico City", 99.5% of patients linked to medical care who obtained their freedom increased from 55% in 2014 to 91% in 2016.

Conclusions: Given the high prevalence of coinfection in patients deprived of their freedom, it is essential to have complementary methods for the assessment and staging (genotype, viral load, elastography) of liver disease, as well as to guarantee access to treatments with high curative rates. The decline in the prevalence of hepatitis C is due to adequate prevention measures (condom use, low injecting drug use) and the freedoms of co-infected patients. It is necessary to strengthen the diagnosis of HIV in prison settings to achieve the goals set by the WHO 90-90-90 initiative. Linkage and retention in medical care is covered in this model (HIV Programme in Prisons), alongside working with improving adherence to HAART in order to increase the levels of undetectability. The model of supervised daily dosage has given partial effective results given that the ARV is provided daily but it does not guarantee that the patients swallow the pills. With the implementation of new strategies (accompaniment and timely information) we are overcoming the problem of how to link 100% of patients to ambulatory care once they obtain their freedom. The HIV Programme in Prisons of Mexico City is effective and can be replicated in different penitentiary systems in other states and countries, but not in the general population.
Abstract P_42

Treatment outcomes of hepatitis C patients treated with daclatasvir based regiments – real-life Portuguese cohort

Valente C1, Morbey A2, Serejo F3, Sarmento e Castro R4, Martins A5, Pedroto F6, Carvalho A7, Peixe P8, Maltez F9, Tato Marinho R3, Velosa J1

1Infectious Diseases Unit/Centro Hospitalar e Universitário De Coimbra, Coimbra, Portugal, 2Transplant Unit- Centro Hospitalar Lisboa Central - Hospital Curry Cabral, Lisboa, Portugal, 3Gastroenterology-Centro Hospitalar Lisboa Norte-Hospital de Santa Maria, Lisboa, Portugal, 4Infectious Diseases Unit- Hospital Santo António, Porto, Portugal,
5Gastroenterology-Hospital Fernando Fonseca, Amadora, Portugal, 6Gastroenterology-Hospital Santo António, Porto, Portugal, 7Internal Medicine- Centro Hospitalar e Universitário de Coimbra, Coimbra, 1, 8Centro Hospitalar Lisboa Ocidental-Hospital Egas Moniz, Lisboa, Portugal, 9Infectious Diseases-Centro Hospitalar Lisboa Central, Lisboa, Portugal,
10Gastroenterology-Centro Hospitalar Lisboa Norte, Lisboa, Portugal, 11Gastroenterology-Centro Hospitalar Lisboa Norte, Lisboa, Portugal

Background: The new direct-acting antiviral agents (DAAs) had revolutionised the treatment of patients with chronic hepatitis C. The aim of the present study was to know the outcome of a real-life cohort of patients treated with daclatasvir-based regimens, considering the effectiveness and safety.

Materials and Methods: this data was obtained from nine centers in Portugal, from different settings (Gastroenterology, Infectious Diseases and Internal Medicine), representing the three main regions of the country. They were included mono and HIV/HCV co-infected patients, naive or experienced and pre and post-liver transplanted individuals, who were treated with daclatasvir+sofabuvir+ribavirin (DCV+SOF+RBV) for 12 or 24 weeks. SVR12 was based in RNA-HCV undetectability at week 12 post-treatment.

Results: Data from 150 patients who started treatment with DCV-based regimens was evaluated. They were mainly genotype (GT) 3-89% (others: GT1a-7%, GT1b-1%, GT4-3%); HIV/HCV co-infected and pre or post-transplanted patients were 14% and 26% respectively. From the total 57% initiated DCV+SOF and 43% DCV+SOF+RBV; 57% and 19% of the patients had compensated and decompensated cirrhosis. The global SVR was 96% (98/102 patients who have already finished the treatment). In 12-weeks regimens, in GT3 patients, the global SVR was 94% with DCV+SOF (100% in co-infected) and 100% with DCV+SOF+RBV. In those treated during 24 weeks, in GT3, the global SVR12 was 97% with DCV+SOF+RBV (in co-infected patients SVR12 was achieved in one of two patients treated with DCV+SOF and in 100% in those treated with DCV+SOF+RBV). In GT1a SVR12 was 100%. SVR2 was also 100% in pre and post-liver transplanted patients, in all genotypes. In those re-treated with DCV-based schedules, SVR12 was 100% in those that have already finished treatment. Four GT3 patients had virological failure and three died. In spite of rare, fatigue and headache were the most frequent reported adverse events, namely with or without RBV.

Conclusions: These real-life results from patients, the majority with advanced liver disease, demonstrated that DCV-based regimens, were highly effective in more than 95% of patients, with good tolerability even in those difficult-to-treat individuals, such as co-infected or pre and post-transplanted.
Abstract P_43

Compromised T cell response regulation in HCV co-infected HIV+ subjects

Alexandrova M1, Yancheva N2, Timchev A2, Emilova R1, Elenkov F, Chervenyakova T2, Nikolova M1

1National Center Of Infectious And Parasitic Diseases, Sofia, Bulgaria; 2Specialized Hospital for Active Treatment of Infectious and Parasitic Diseases, Sofia, Bulgaria

Background: HCV co-infection compromises the clinical course and antiretroviral therapy response in HIV+ patients, though the underlying mechanisms are not well clarified. Regulatory CD4+FoxP3+ T (Treg) provide efficient effector and memory T cell response, while limiting immune overactivation. Both HIV and HCV monoinfections are characterized with increased share of Treg. Data about Treg function in co-infected patients are controversial.

Aim: We characterized the effects of untreated HCV co-infection on Treg subset composition, and T cell cytokine secretion potential, before and after one year of cART.

Patients and Methods: Age- and sex-matched co-infected (HIV+HCV+, n=25) and monoinfected (HIV+, n=25) patients were studied before and after 12 months of continuous cART. Total Treg (CD4+FoxP3+CD25hi), CD39/Treg, naïve (CD45RA+FoxP3low), effector CD45RA-FoxP3hi) and “ex”(CD45RA+FoxP3low) Treg subsets, as well as the concentrations (pg/ml) of IFNγ, TNFα, IL-2, IL-4, IL-6, IL-10, IL-17 in PHA-stimulated blood samples were compared to HIV-HCV controls (HC, flow cytometry, CBA cytokine kit, BDTM). Effect of Treg depletion (Dynal® Treg Kit) on CD4 and CD8 T cell function was evaluated by ICS for IFNγ, IL-2, IL-4 and IL-17 after 18h PHA stimulation.

Results: Although with similarly increased total and “ex” (CD45RA-FoxP3low) Treg levels (47% and 40% vs. 24% in HC), co-infected differed by a high share of CD39+Treg (3.9 vs. 1.8, p< 0.01), significantly decreased effector (IFNγ,TNFα,IL-2,IL-4,IL-17) and regulatory (IL-10) cytokines and weak immune activation control (IL-6/IL2). Treg depletion of HIV+HCV+T cells did not affect significantly IFNγ, IL-2, IL-4 or IL-17 expression after PHA stimulation. After one year of cART the levels (mean±SEM) of IFNγ (370±111), IL-2 (95±12), IL-17(52±9) remained lower and IL-6/IL2 (459±69) ratio - significantly higher in co-infected as compared to monoinfection (843±129, 389±108, 84±8 and 208±65 respectively, p<0.05 for all).

Conclusion: HCV co-infection contributes to reduced Treg function, inefficient Th1 antiviral response, and impaired differentiation of Th17 lymphocytes despite continuous cART, thus increasing the risk of liver damage and opportunistic infections. Timely application of HCV-specific therapy is warranted in coinfected patients.

Abstract P_44

High incidence of new HCV infections in a cohort of drug users followed in a Unit of Harm Reduction in Madrid

Valencia La Rosa J1, Gutierrez Peraza J1, Troya J2, Alvaro-Meca A3, Cuevas G2, Ryan P1

1Harm Reduction Unit of the Office of Public Health (Madrid-Spain), Madrid, Spain, 2Hospital Infanta Leonor, Madrid, Spain, 3Rey Juan Carlos University, Madrid, Spain

Introduction: There are presently an estimated 3 to 4 millions new infections per year, with illicit injection drug use being the major risk factor for HIV. Although interventions such as sterile syringe exchange programs have been shown to decrease new HIV infection, the results have been inconsistent when it come to prevention of HCV infection in IDU (intravenous drug users). We sought to examine rates of HCV infection and the possible link with methadone use among IDU in our HRU (Harm Reduction Unit) of Madrid.

Methods: Sample size were based in an Access data base collect between 2013 and 2016. As an initial step, Kaplan- Meier methods were employed to estimate the global incidence density reported at 95% CIs calculated with normal approximation given the frequent events. The date of HCV
In the same period incidence rate of chronic forms of HCV infections has been reported 58,1 on 100.000 population in Grodno region of Belarus and 42,5 on 100.000 in Belarus. Aim of study: to present epidemiology, clinical and laboratory data of acute hepatitis C in patients living in Grodno region of Belarus.

Materials and Methods: Retrospective analysis of medical documents of 13 patients with acute hepatitis C (females–4 (30,8%) males–9 (69,2%), mean age – 32,2±17,3 years) who has been treated in clinic of infectious diseases from 2014 until 2017 was performed. “Statistica” 10,0 was used. The data are presented in Me (min-max).

Results: AHC of moderate severity was in 12 (92,2%) patients, severe AHC – in 1 (7,8%). Terms of hospitalization consisted of 26 (20-69) days. Probable ways of HCV transmission were established on anamnesis data. Previous surgical operations were revealed in 3 (23,1%) cases, cesarean section and blood transfusion – in 1 (7,8%), sexual way – in 3 (23,1%) cases, unknown ways of transmission - in 6 (46,2%). Prodromal period of AHC was in 7 (53,8%) patients and manifested with fever in 2 (15,6%) cases, myalgia – in 3 (23,1%), arthralgia -3 (23,1%), anorexia- 7 (53,8%), nausea/vomiting – 4 (31,2%), abdominal pain – 2 (15,6%), weight loss - 2 (15,6%), diarrhea – 2 (15,6%). All patients in studied group had icterus. Hepatomegaly was in 6 (46,2%) cases, splenomegaly – in 3 (23,1%). The highest bilirubin level was 143,0 (44,40-445,60) (mkmoll/l), ALAT – 803 (56,0 - 3208,0) U/L, ASAT – 550,0 (69,90 -3300,0) U/L. In all cases diagnosis of AHC was confirmed by RNA HCV (PCR) detection. Anti-HCV antibodies during hospitalization were negative in 4 (30,8%) patients, but later all these patients became seropositive. Genotypes of HCV was evaluated in 3 cases: 3a genotype was – in 2 patients, 1b – in 1. All patients were discharged from hospital with clinical recovery, without complications. Spontaneous remission of HCV confirmed by PCR (absence of HCV RNA) was established in 1 case.

Conclusions: Presently AHC is relatively rare form of HCV infection in Grodno region of Belarus. Presence of AHC cases reflects the activity of epidemiological process of HCV-infection because of quite large reservoirs of chronic forms of HCV infections exist. HCV-infection eradication program needs to be introduced in Belarus.

Abstract P_45

Acute hepatitis C: epidemiology, clinical and laboratory features in modern period

Matsiyeuskaya N1, Chemjak L2, Shilo A1

1Grodno State Medical University, Grodno, Belarus, 2Grodno regional clinic of infectious diseases , Grodno, Belarus

Introduction: Presently acute hepatitis C (AHC) continues to be extremely rare in Belarus. In 2016 incidence rate of acute hepatitis C has been reported 0,5 on 100.000 population in Grodno region of Belarus and 1,14 on 100.000 in Belarus. In the same period incidence rate of chronic forms of HCV-infections has been reported 58,1 on 100.000 population in Grodno region of Belarus and 42,5 on 100.000 in Belarus.

Results: During the study period, 954 IDU carried out at least a HCV serology as part of the individual and initial intervention in our HRU. 504 were excluded for a unique HCV serology and 315 due to his status positive HCV to the beginning of the follow-up. At baseline,135 IDU were HCV negative and had at least one follow-up HCV test and were therefore included in the analysis of HCV incidence. Overall, the baseline HCV prevalence was 33,01%. After 4 years of follow-up, 28 tested HCV antibodies- positive (all were negative HIV, except one), and the calculate of the incidence density of HCV seroconversion for this entire sample was 20,7 (95% CI:14,3- 29,72) per 100 person-year. Methadone did not influence time to HCV seroconversion.

Conclusions: Despite the implementation of harm reduction programs, there is a high incidence of HCV in active drug users. Treatment as prevention and strengthening strategies harm reduction could be important to reduce new cases.
Occult hepatitis B infection (OBI) among HIV positive patients in Nigeria

Oluremi A1, Ajala O2

1Ladoke Akintola University Of Technology, Osogbo, Nigeria, 2Hospital Management Board, Jericho, Ibadan, Nigeria

Background: HIV has been known to interfere with the natural history of hepatitis B virus (HBV) infection resulting into high morbidity and mortality. Successful implementation of ART leads to immune reconstitution that can potentially result in immune-mediated liver injury in the setting of confection. Some studies have reported an association between OBI and elevated transaminase therefore this study identified occult Hepatitis B Infection among HIV patients visiting HIV Clinic in Ikole Ekiti, Nigeria

Methodology: Ethical clearance was obtained from the Ethical Committee Ekiti State Ministry of Health, Nigeria. 1,200 HIV-infected patients enrolled in the HAART, Specialist Hospital, Nigeria, from October, 2012, to April, 2013 were bled. Their samples were tested in duplicate for HBsAg, anti-HBs, anti-HBc, anti-HCV, and anti-HIV using ELISA and CD4 counts were analyzed by flow-cytometry. All anti-HBc positive samples were retested for HBsAg as well as for anti-HBc, and only repeat positive samples were included in the study. DNA was extracted from all the serum samples using QIAamp DNA BloodMini kit and was stored at −20°C until tested. The presence of HBV DNA was examined in all samples using a routine diagnostic PCR. A nested PCR was performed. Each PCR product (5 µL) was analysed by electrophoresis in 2% agarose gels. A positive control (HBV plasmid DNA) and a negative control of the master mix only were integrated to each run to validate the PCR products that yielded a 340 bp fragment. Quantification of HBV DNA was performed with quantitative real-time PCR using in a GeneAmp 7300 sequence analyzer (Applied Biosystems, Perkin-Elmer, Foster City, CA). HBV-plasmid DNA was used to generate a standard curve following a serial 10-fold dilution. Statistical analysis was performed using software within SPSS and value ≤ 0.05

Results: 21/188 (11.2%) of patients were identified as OBI and 62.5% of the OBI patients had CD4 count less than 200 cells/mm3. Averagely the HBV viral load was <50 copies/mL in the OBI samples examined by quantitative PCR. HCV prevalence was 5(0.27%) of 188. Serum levels of AST and ALT were higher among patients with OBI in comparison to anti-HBc positive HBV DNA negative individuals.

Conclusion: The present study highlights the need for screening HBV before the initiation of any HAART containing anti-HBV regimens in HBV/HIV coinfected patients. It necessitates the use of NAT for effective laboratory diagnosis of occult HBV infections in HIV positive patients and need for efficient HBV vaccination program in Nigeria.

Burden of viral hepatitis infections among HIV sero-positive Nigerians: a 4 year survey

Enya V

1Nigerian Institute Of Medical Research, Lagos, Nigeria, Yaba, Nigeria

Background: Viral hepatitis infections, namely: Hepatitis C virus (HCV) and hepatitis B virus (HBV) are found often among patients with Human Immunodeficiency Virus (HIV) infection due to shared routes of viral transmission. This puts HIV Positive individuals usually at risk of co-infection with either hepatitis B or hepatitis C viruses, or both. HCV do accelerate the evolution and progression of liver disease in HIV-infected individuals and HIV-HBV co-infected patients are at higher risk of developing cirrhosis. This study was carried out to determine the trend and risk factors of viral hepatitis infections among HIV positive patients presenting at Clinical Diagnostic Laboratory (CDL), Nigerian Institute of Medical Research, from 2012 to 2015.

Materials and Methods: A Serological study for hepatitis B/ and Hepatitis C were performed on 1584 HIV-positive individuals who completed informed consent forms. They were tested for the presence of hepatitis B surface antigen and anti-hepatitis C virus antibody.
Results: Triple infections of HIV, HBV and HCV were found among children: 2(0.13%) and women: 6(3.8%). A total of 3 patients were positive for only HCV, 145 (15.09%) were for HBV only. The most affect age group was 26-35 year and mostly males were positive for viral hepatitis and HIV co-infections with P value = 0.003. The highest viral hepatitis and HIV co-infections were recorded in 2013: 508(32.1%) and the least in 2015: 133(8.4%).

Conclusions: This study revealed emergence of HBV and HCV co-infection among Nigerian HIV-seropositive children with implications in treatment and support care.

Abstract P_48

Hepatitis A outbreaks among MSM in northern Sardinia: a case of HIV-HCV co-infection

Dore E1, Flore G1, Mannazzu M1, Naitana A1, Porqueddu E1, Are R1, Madeddu G1, Babudieri S1, Maida I1

1 Infectious Diseases Clinic, Department Of Experimental Medicine, University Of Sassari, Sassari, Italy

Background: The recurrence of Hepatitis A infection has been increasing in Europe and in Italy, raising several public health issues and concerns in infectious diseases. In addition to the identified risk factors for HAV infection and transmission (contaminated water or seafood-products and/or person-to-person contact), sexual exposure is another important factor to consider. A high percentage of cases of infection is represented by men who have sex with men (MSM).

Materials and Methods: In the last four months we observed 7 cases of Hepatitis A infection, referred to the only Infectious Diseases Unit of Northern Sardinia. Among them, we report a case of HAV in a patient with HIV-HCV co-infection. We notice the positivity of anti-HAV IgM, the progression of bilirubinaemia and transaminases, as well as clinical evolution.

Results: The 38 year old man reported he had sex with other men in the 8 weeks prior to the onset of the symptoms and he denied having eaten seafood. Clinical presentation included jaundice, nausea and occasional vomiting. During surveillance of contacts of the case, we found Hepatitis A acute infection in his sexual partner and we admitted him to the hospital with the same symptoms. They didn’t present any alteration of the coagulation profile and were steadily without fever.

Conclusions: Hepatitis A represents a significant and potentially worsening public health problem in northern Sardinia. Strict surveillance of cases and appropriate immunisation of close contacts (including sexual partners) can prevent the most severe forms of the infection and reduce HAV transmission.

Although there are currently no particular risk conditions for recurrence of the disease in the general population, there is an actual risk of its spread in the Sardinian MSM community. Vaccination is strongly recommended in people with HIV+, HBV+, HCV+ or other sexually transmitted diseases, as well as condom use, particularly in MSM.

Abstract P_49

Molecular epidemiology, genotyping, and virological profiles of hepatitis B virus (HBV) infection in human immunodeficiency virus (HIV) patients in south-western Nigeria

Oluremi A1, Opaleye O1, Ajala O2

1 Ladoke Akintola University Of Technology, Osogbo, Nigeria,
2 Police Cottage Hospitals, Benin City, Nigeria

Background: Nigeria has the second largest HIV epidemic (3.5million) in the world, of which 0.5 million (13%) have chronic hepatitis B (CHB) infection. An estimated 60% of new HIV infections in western and central Africa in occurred majorly in Nigeria, the country accounts for almost half of all new HIV infections in sub-Saharan Africa every year. HIV-HBV co-infection increase morbidity and
mortality in HIV-seropositive patients. In addition, HIV infection increases the risk of chronic HBV infection and promotes a faster progression to cirrhosis and its complications, particularly when HBV replication is high. HIV-HBV co-infection patients are at risk for hepatic flares and decompensation throughout the disease course, particularly with immune reconstitution during ART. Despite HBV vaccine administration, the rate of HIV-HBV co-infection is continued to increase. We therefore investigated the risk factors, genotypes, prevalence and virological profiles of HBV in HIV patients in Nigeria.

**Methods:** The study was approved by ethical committee of tertiary hospitals used and informed consent questionnaire was used to fetch demographical information. A cross-sectional study was conducted with 300 HIV-positive individuals attending HIV Clinics in South-western Nigeria from July 2016 to January, 2017. Blood samples were collected and screened for all HBV markers using ELISA techniques. CD4 cells counts were analyzed by flow cytometry methods. DNA was extracted from HBV positive samples using the Qiagen extraction kit. HBV DNA and viral load were detected by real time Polymerase chain reaction (PCR). Occult HBV was detected using nested PCR and HBV genotyping was done using genotyping and phylogenetic analysis. Data was analyzed with packages within SPSS software and p value less than 0.05.

**Results:** Overall HBV infection was found in 51 (17.0%) of 300 HIV patients while that Occult HBV was 13 (0.43%). The result of HBV markers showed prevalence of: 51(17%) HBsAg, 35(11.6%) HBsAb, 7(2.3%) HBeAg, 81(27%) HBeAb and 79(26.3%) HBcAb. The risks factors that were significant with HIV-HBV co-infection includes: Multiple partners (P=0.032), Education’s level (P=0.012), Age (P=0.0014) and Marital status (P=0.049).The mean average CD4 count was 407.40cells/mm3 (38-1251cell/mm3) and mean viral load was 82,745.99copies/ml. The HBV genotypes detected from the 51 HBV samples were 10(19.6%) A , 11 (21.6%) B, 24 (47.1%) E, and 9(17.6%) F, and co-infected genotypes of: 2(3.92%) AE, 2(3.92%) AF, 8(15.7%) BE, 2(3.92%) BF, and 1 (1.96%) ABE were found.

**Conclusion:** Seroprevalence of HBV (17.1%) among HIV cohort indicate need for pre-ART screening for HBV screening and shift in ART to include dual agents effective against HIV-HBV. Genotype E has prevalence of 25.4% which is quite high and this highlights the significant of HBV genotyping in individual either with HBV alone or HIV/HBV co-infection. This will assist in better treatment which will aid quick viral suppression and reduce morbidity and mortality associated with the virus. This study provides knowledge to support strategies for the prevention control of the burden of disease caused by HBV and HIV infections in Nigeria.

---

**Abstract P_50**

**Retrieval of previously diagnosed hepatitis C patients in the Netherlands (REACH): interim results**

*Kracht P1, Arends J1, Hoepelman A1*

1University Medical Center Utrecht, Department of Internal medicine and Infectious diseases , Utrecht, Netherlands

**Background:** The Netherlands, as a low endemic country, has the unique opportunity to eliminate the hepatitis C virus (HCV) since direct-acting antivirals are already reimbursed for all patients, irrespective of their fibrosis stage for nearly 2 years. This led to a substantial number of chronic HCV patients being treated. In order to move forward in the elimination process, case finding of formerly identified however yet untreated HCV patients is essential.

**Aim:** To retrieve and cure all previously diagnosed and lost to follow-up HCV patients in the Utrecht province. This project is a pilot initiative of the Dutch national academic collaborative of HCV care providers (HepNed).

**Methods:** Positive HCV diagnostic tests (anti-HCV or HCV-RNA) from all four hospitals in the Utrecht province between 2006-2016 have been retrieved and linked to clinical records to identify those patients with a possible persistent HCV infection. Thus selected patients were invited back into clinical care for re-evaluation with (virology) blood tests, a fibroscan and subsequent treatment if indicated. In-depth interviews were performed to learn the main reason(s) for loss to follow-up in the past.
Results: After screening the first 1190 HCV tests from 3 hospitals, a total of 517 individual patients with suspected chronic HCV were identified. Fifty-nine HCV patients were linked to external applicants, 99 patients were deceased (35 with liver-related deaths) whereas 107 were still in clinical follow-up. Of the remaining 252 patients (49%) lost to follow-up, 58 had been referred elsewhere and 61 resided in detention (pending removal abroad) or an asylum center at the last contact moment. This resulted in 133 patients (26%) eligible for retrieval that were subsequently contacted and invited for re-evaluation and DAA treatment.

A total of 12 patients have yet been retraced of which 6 are back in clinical care. Patients back in care were predominantly male (67%) with a mean age of 53 (±6.2) and the following genotype distribution: 1a (n=2), 1b (n=3) and 2 (n=1). Two patients scored F0-F1 by Metavir, one was graded F2 and another two patients had severe F3 fibrosis. Reasons for loss to follow-up in the past were mainly substance abuse related (50%). At the conference, we will report completed update numbers.

Conclusion: A substantial proportion (49%) of patients with previously diagnosed HCV in the Utrecht province were lost to follow-up over the past 10 years. Retrieval of eligible patients is feasible, with so far 12 patients (9%) that have been traced, and constitutes an imperative endeavour on the road to complete HCV elimination from the Netherlands.

Abstract P_51

Evaluation of HBV, HCV and HIV awareness, co-infections, prevalence and risk factors among students in a Nigerian university

Japhet M*, Adesina O†, Adewumi M‡

1Obafemi Awolowo University (OAU), Ile-Ife, Nigeria,
2Department of Virology, College of Medicine, University of Ibadan, Ibadan, Nigeria

Background: Hepatitis B, Hepatitis C and HIV are life threatening viral infections with HBV and HCV as risk factors for HCC and the three viruses can be transmitted by exposure to contaminated blood. Although Hepatitis B virus (HBV) infection is preventable with vaccination, it is a major health concern, with about 400 million people at risk of developing the chronic form of the disease worldwide. The level of awareness and universal precaution to HBV is low in sub-Saharan African including Nigeria. We therefore determine the prevalence of HCV, HBV and HIV and accessed the knowledge of University students about these three viral infection and the risk factors for transmission.

Methods: A total of 903 previously counselled/consenting University students (M=502, F=428; Age range 16-40years; mean age 19years) were enrolled in the study. Questionnaires were administered to collect relevant information. About 5ml of blood was collected from each student. Serum recovered from each blood specimen was analysed for detectable HIV antigens and antibodies using specific ELISA test kit. Subsequently, specimens with detectable HIV antigens and/antibodies were analysed for detectable HBsAg (Hepatitis B surface Antigen) and anti-HCV. The HIV and HBV positive were compared in terms of gender, age group, and risk factors by use of chi-square and Fischer exact tests, using two-tailed significance. SPSS version 20.0.1 for Windows was used for statistical analysis.
**Result:** Of the 930 students examined, 630 (67.7%) were sexually active and 104 (16.5%) of them had multiple sex partners. Also, 599 (64.4%) of the students admitted to sharing sharp objects (eg scissors, clipper) with people they are not sure of their HIV, HBV or HCV status. One hundred and twenty eight (13.8%) of the students had received blood transfusion which may or may not be properly screened. Knowledge of HIV, HBV and HCV status was 36.3%, 55% and 4.2% respectively, the rest were never screened at any time. Overall, 13 (1.40%) of the students had detectable HIV antigens and/or antibodies and of these 5 (38.5%) were HBV positive while none of the HIV positive student had HCV infection. Of the 5 HBV positive students, none had been screen for HBV, therefore not aware of their HBV status. All the HIV and HBV positive students fall within the age range 15-24 years and higher HIV/HBV prevalence was found in females compared to male. Sex distribution of HIV and HBV among females was 1.64% (n=7/428) and 0.74% (n=3/428) respectively while a prevalence of 1.19% (n=6/502) and 0.40% (n=2/502) was found among males for HIV and HBV respectively. A statistical significance was found between gender, number of sex partners, sharing sharp objects (eg scissors, clipper) with people of unknown HIV/HBV/HCV status and HIV/HBV prevalence (P= 0.005; 0.002 and 0.005 respectively)

**Conclusion:** Knowledge about HBV and HCV is generally low among the university students. HBV awareness campaigns specifically tailored towards educating young adults on the risk of unprotected sex, sharing sharps and unsafe blood transfusion should be encouraged. Furthermore, education on HBV and HCV and HIV prevention and control should be encouraged.

---

**Abstract P_52**

**Transplants in HIV positive recipients. Evaluation of Italian National Transplant Centre**

**Morabito V**1, Grossi P2, Lombardini L1, Trapani S1, Peritore D1, Rizzato L1, Nanni Costa A1

1Italian National Transplant Centre, Roma, Italy, 2Insubria University, Varese, Italy

**Introduction:** According to current estimates, there are about 540,000 patients (patients) who are infected with HIV in Western Europe, of which about 3,100 potential candidates for organ transplantation. In Italy, there are currently 69 pts HIV in the transplant list.

**Methods:** The activity of organ transplants in HIV recipients from 2002 to December 2016 was assessed as resulted from the database provided by the Transplant Center of Modena until the year 2011. For the years 2012 to 2016, data are from the Transplant Information System (SIT). The follow-up data has been extracted from the function “Quality” of the SIT. The transplant centers on Italian territory that meet the requirements according to national protocol are in total 29: 11 for the liver, 9 for the kidney including 1 pediatric, 3 for the heart, 3 for the lungs and for 3 for the combined kidney-pancreas.

**Results:** Since 2002, 362 organ transplants were carried out including 248 liver, 95 kidney, 6 combined liver-kidney, 5 combined kidney-pancreas, 6 heart, 2 double lung and 1 isolated pancreas. Two periods can be consider. The first, from 2002 to 2010 as pilot period where 157 transplants were performed. The second one since 2011, when a National Program for Transplant HIV positive recipients was established, with 205 transplant performed. The first cause of death is represented by the co-HCV infection with a survival in liver transplant recipients around 50% and in kidney transplant around 90% at 5yrs follow up.
Conclusions: This is just a snapshot about the activity of transplantation in HIV positive recipients in Italy, with an increase of transplants especially in the last 3 years and an outcome similar to that reported in the literature.

Abstract P_53

Liver steatosis in HIV-infected patients

Matsiyeuskaya N1, Chemjak L2

1Grodno State Medical University, Grodno, Belarus. 2Grodno regional clinic of infectious diseases, Grodno, Belarus

Background: Steatosis of the liver is a universal response of the liver to the impact of different infectious agents and hepatotoxic factors (HTFs) – HIV, HCV, HBV, alcohol (ALC), drugs and others. Aim of study: to assess the incidence and severity of liver steatosis in deceased HIV-infected patients in dependence on infectious agents and HTFs.

Materials and Methods: Post-mortem liver samples were studied in 119 HIV-infected patients (males – 85(71,4%), females - 34 (28,6%), mean age - 35,6±6,68 years, AIDS – 105 (88,2%), liver cirrhosis – 34 (28,6%), ART - 14 (11,8%). Histological sections were stained with hematoxylin and eosin, picrofuxin by van Gieson. Assessment of the severity of inflammatory and sclerotic changes in the liver was carried out according to Serov and Knodell, the degree of liver steatosis - according to Hornboll.

Results: According to viruses and HTFs combinations the patients were divided in to 9 groups: the 1st one – 4 (3,4%) patients with HIV/ALC combination, the 2nd – 7 (5,9%) patients with HIV/IDU (intravenous drug using), the 3rd – 4 (3,4%) patients with HIV/IDU/ALC, the 4th – 21 (17,6%) patients with HIV/HCV, the 5th – 16 (13,4%) patients with HIV/HCV/ALC, the 6th – 29 (24,4%) patients with HIV/HCV/IDU, the 7th - 29 (24,4%) patients with HIV/HCV/IDU/ALC, the 8th - 3 (2,5%) patients with HIV/HBV/ALC, the 9th – 6 (5,0%) HIV-infected patients without known HTFs. Liver steatosis in the 1st group was revealed in 3(75%) cases, in the 2nd group – in 4 (57,1%), in the 3rd – in 2 (50%), in the 4th – 12(57,1%) (p<0,02 in compare with the 5th group), in the 5th – in 14 (87,5%) cases, in the 6th – 15 (51,7%) (p<0,02 in compare with the 5th group), in the 7th – in 19 (65,5%) cases, in the 8th – in 2 (66,7%), in the 9th – in 2 (33,3%) cases (p<0,05 in compare with the 5th group). Higher incidents rate of more expressed steatosis (the 3rd grade by Hornboll) was revealed in the 5th group - 9 (56,3%) cases (p<0,01 vs. 3 (14,3%) cases in the 4th group).

Liver steatosis had positive correlations (Spearman) with presence of liver cirrhosis (R=0,26, p<0,01), piecemeal necrosis – (R=0,22, p<0,02), interlobular necrosis– (R=0,24, p<0,01), septa in the liver – (R=0,36, p<0,001). Negative correlation of liver steatosis was established with hepatitis of minimal activity – (R=0,19, p<0,04).

Conclusions: Liver steatosis in HIV-infected patients had been associated with co-infections HIV/HCV and alcoholism abuse and also with liver necrosis and advanced fibrosis. The treatment of HIV/HCV co-infection with exclusion of alcoholism abuse is more important points for monitoring of liver steatosis in HIV-infected patients.
13th International Workshop on Co-infection HIV & Hepatitis

21 - 23 June 2017, Lisbon, Portugal

Author index
<table>
<thead>
<tr>
<th>Author name</th>
<th>Abstract title</th>
<th>Abst #</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abutidze, A.</td>
<td>Real-life effectiveness of Sofosbuvir and Ledipasvir/sofosbuvir regimens in HIV/HCV co-infected patients in the country of Georgia</td>
<td>P_34</td>
<td>34</td>
</tr>
<tr>
<td>Achega, M.</td>
<td>HCV/HIV co-infected patients: who is still left to treat in the era of DAA therapy?</td>
<td>P_22</td>
<td>24</td>
</tr>
<tr>
<td>Akande, K.</td>
<td>The pattern of hepatitis B surface antigen quantification and its correlation with HBV DNA among Nigerian patients with chronic HBV: Implications for treatment and long term complications</td>
<td>P_14</td>
<td>16</td>
</tr>
<tr>
<td>Alves, J.</td>
<td>Elderly patients as a difficult-to-treat subgroup? – real-world Portuguese study on the effectiveness of direct-acting antivirals for hepatitis C chronic infection</td>
<td>P_18</td>
<td>20</td>
</tr>
<tr>
<td>Brogueira, P.</td>
<td>Genotype 4 infection in a Portuguese cohort of HCV infected patients with and without HIV co-infection: real life experience with sofosbuvir/ledipasvir regimen</td>
<td>P_29</td>
<td>30</td>
</tr>
<tr>
<td>Buggisch, P.</td>
<td>Real world effectiveness of ledipasvir/sofosbuvir (LDV/SOF) for 8 weeks in patients coinfected with HCV and HIV-1</td>
<td>O_04</td>
<td>6</td>
</tr>
<tr>
<td>Cardoso, M.</td>
<td>Non-invasive hepatic fibrosis seromarkers evolution after DAA treatment in a cohort of patients with advanced fibrosis and cirrhosis</td>
<td>P_20</td>
<td>22</td>
</tr>
<tr>
<td>Casella, M.</td>
<td>Real-life data of two years of therapy with direct acting antivirals in the south of Portugal</td>
<td>P_26</td>
<td>27</td>
</tr>
<tr>
<td>Cuypers, L.</td>
<td>Relapse or reinfection of hepatitis C after direct acting antiviral treatment: unravelled by phylogenetic analysis. Results from the Spanish GEHEP-004 cohort.</td>
<td>O_01</td>
<td>3</td>
</tr>
<tr>
<td>Dolmazashvili, E.</td>
<td>Regression of liver fibrosis in patients with chronic hepatitis C treated with direct acting anti-viral (DAA) therapy in the country of Georgia</td>
<td>O_11</td>
<td>13</td>
</tr>
<tr>
<td>Dominguez Rodríguez, S.</td>
<td>HCV impact on HIV-1 protease evolution in HCV/HIV co-infected pediatric patients</td>
<td>P_13</td>
<td>16</td>
</tr>
<tr>
<td>Dore, E.</td>
<td>Hepatitis A outbreaks among MSM in northern Sardinia: a case of HIV-HCV co-infection.</td>
<td>P_48</td>
<td>45</td>
</tr>
<tr>
<td>Duarte, F.</td>
<td>Monitoring inflammatory markers during DAA treatment of co-infected HCV/HIV patients</td>
<td>P_19</td>
<td>21</td>
</tr>
<tr>
<td>Enya, V.</td>
<td>Burden of viral hepatitis infections among HIV sero-positive Nigerians: a 4 year survey</td>
<td>P_47</td>
<td>44</td>
</tr>
<tr>
<td>Felipe da Silva, J.</td>
<td>Renal impact of combining sofosbuvir/ledipasvir with antiretroviral regimens containing tenofovir and boosted protease inhibitors – a real world experience</td>
<td>P_27</td>
<td>28</td>
</tr>
<tr>
<td>García-Fraile Fraile, L.</td>
<td>Hepatic transient elastography in HIV-HCV co-infected patients after achieving sustained virologic response with direct acting antiviral agents</td>
<td>P_33</td>
<td>33</td>
</tr>
<tr>
<td>Garrote, A.</td>
<td>Outbreak of hepatitis A in men who have sex with men in 2017 - Experience in an Infectious Diseases Department, Hospital de Curry Cabral - CHLC, Lisbon, Portugal</td>
<td>O_07</td>
<td>9</td>
</tr>
<tr>
<td>Garrote, A.</td>
<td>Sustained virological response and serum biomarkers evolution with chronic hepatitis C treatment in HIV co-infection – A real life experience in the Infectious Diseases Department in Hospital de Curry Cabral – CHLC, Lisbon, Portugal</td>
<td>P_31</td>
<td>32</td>
</tr>
<tr>
<td>Horta, D.</td>
<td>Liver fibrosis after treatment with Direct Acting Antivirals (DAAs) in HCV/HIV coinfected patients</td>
<td>P_23</td>
<td>25</td>
</tr>
<tr>
<td>Islam, S.</td>
<td>Detection and monitoring of Hepatitis B e Antigen and Hepatitis B virus DNA among Chronic Hepatitis B carriers: A direct appraisals for viral infectivity</td>
<td>P_32</td>
<td>33</td>
</tr>
<tr>
<td>Japhet, M.</td>
<td>Evaluation of HBV, HCV and HIV awareness, co-Infections, prevalence and risk factors among students in a Nigerian university</td>
<td>P_51</td>
<td>47</td>
</tr>
<tr>
<td>Kajaia, M.</td>
<td>HCV treatment outcome among patients attending opioid substation therapy clinics</td>
<td>P_36</td>
<td>36</td>
</tr>
<tr>
<td>Karoney, M.</td>
<td>Burden of Hepatitis B infection among high risk populations in Western Kenya</td>
<td>P_37</td>
<td>37</td>
</tr>
<tr>
<td>Kracht, P.</td>
<td>Retrieval of previously diagnosed Hepatitis C patients in the Netherlands (REACH): interim results</td>
<td>P_50</td>
<td>46</td>
</tr>
<tr>
<td>Martins, A.</td>
<td>Direct-Acting Antiviral treatment in cirrhotic patients</td>
<td>P_24</td>
<td>25</td>
</tr>
<tr>
<td>Matsiyeuskaya, N.</td>
<td>Acute hepatitis C: epidemiology, clinical and laboratory features in modern period</td>
<td>P_45</td>
<td>43</td>
</tr>
<tr>
<td>Matsiyeuskaya, N.</td>
<td>Liver steatosis in HIV-infected patients</td>
<td>P_53</td>
<td>49</td>
</tr>
<tr>
<td>Méndez, J.</td>
<td>Hepatic steatosis and Lipid proFile evolution After Hepatitis C treatment in hcv/hiv coinfected patients</td>
<td>O_09</td>
<td>11</td>
</tr>
<tr>
<td>Merli, M.</td>
<td>Acute Hepatitis A Outbreak among Men who have Sex with Men in Milan: the role of HIV co-infection.</td>
<td>O_06</td>
<td>8</td>
</tr>
<tr>
<td>Author name</td>
<td>Abstract title</td>
<td>Abst #</td>
<td>Page #</td>
</tr>
<tr>
<td>------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Miranda, A.</td>
<td>Chronic hepatitis C genotype 3 treatment in Portugal: what does the future hold after two years of DAA therapy?</td>
<td>P_16</td>
<td>18</td>
</tr>
<tr>
<td>Miranda, A.</td>
<td>DAA therapy in a cohort of 215 HCV chronically infected patients with advanced fibrosis and cirrhosis: the real life experience of an infectious diseases Portuguese centre</td>
<td>P_17</td>
<td>19</td>
</tr>
<tr>
<td>Morabito, V.</td>
<td>Transplants in HIV positive recipients. Evaluation of Italian National Transplant Centre</td>
<td>P_52</td>
<td>48</td>
</tr>
<tr>
<td>Oluremi, A.</td>
<td>Occult Hepatitis B Infection (OBI) Among HIV Positive Patients In Nigeria</td>
<td>P_46</td>
<td>44</td>
</tr>
<tr>
<td>Oluremi, A.</td>
<td>Molecular Epidemiology, Genotyping, and Virological Profiles of Hepatitis B Virus (HBV) Infection in Human Immunodeficiency Virus (HIV) Patients in South-western Nigeria</td>
<td>P_49</td>
<td>45</td>
</tr>
<tr>
<td>Pal, A.</td>
<td>Association of HBV/D2 strains in HIV-positive eastern Indian patients during long-term HAART with high incidence of Lamivudine-resistance and liver damages</td>
<td>P_38</td>
<td>37</td>
</tr>
<tr>
<td>Petalidis, I.</td>
<td>Overcoming barriers to chronic hepatitis C (CHC) treatment via Liver Elastography screening*: A collaboration of a public-sector organization with community organization.</td>
<td>P_39</td>
<td>38</td>
</tr>
<tr>
<td>Peters, M.</td>
<td>Direct Acting Antiviral Treatment for HCV in Safety Net Settings: Provider and HIV/HCV Co-Infected Patient Preferences</td>
<td>O_08</td>
<td>10</td>
</tr>
<tr>
<td>Pinheiro, H.</td>
<td>Chronic hepatitis C treatment failure with direct-acting antivirals in a cohort of HCV-HIV co-infected patients in the Infectious Diseases Department of Hospital de Curry Cabral – CHLC, Lisbon, Portugal.</td>
<td>P_30</td>
<td>31</td>
</tr>
<tr>
<td>Quiroga Ferrufino, R.</td>
<td>Comorbidities and Level of Complexity among Individuals with Hepatitis C and HIV Co-Infection in a Reference Center in Brazil: A Descriptive Cohort Study</td>
<td>P_40</td>
<td>39</td>
</tr>
<tr>
<td>Rodríguez-Cortés, P.</td>
<td>Clinical evolution of porphyria cutanea tarda (PCT) in HCV mono-infected and HIV/HCV co-infected patients after viral eradication with direct acting agents (DAA)</td>
<td>O_05</td>
<td>7</td>
</tr>
<tr>
<td>Sargsyants, N.</td>
<td>Real world data concerning rapid virological response and tolerability of DAA with/without IFN regimens in small cohort of HCV-infected patients</td>
<td>P_25</td>
<td>26</td>
</tr>
<tr>
<td>Sarmento e Castro, R.</td>
<td>Treatment of cirrhotic HCV/HIV co-infected patients with DAAas</td>
<td>O_10</td>
<td>12</td>
</tr>
<tr>
<td>Schmidt, D.</td>
<td>Hepatitis co-infections and HBV vaccination status among people living with HIV in Germany - Data from a hepatitis screening in the German HIV-1 seroconverter cohort</td>
<td>O_12</td>
<td>14</td>
</tr>
<tr>
<td>Seixas, D.</td>
<td>HCV genotype 3 DAA treatment in a cohort of 284 HIV co-infected patients: a multicentre, observational, retrospective Portuguese study</td>
<td>O_03</td>
<td>5</td>
</tr>
<tr>
<td>Shostakovych-Koretskaya, L.</td>
<td>Sofosbuvir-based treatment of HCV / HIV Co-infection in economically limited setting</td>
<td>P_35</td>
<td>35</td>
</tr>
<tr>
<td>Simões, P.</td>
<td>Liver fibrosis regression in HCV-HIV co-infected individuals with F3-F4 Metavir score after successful treatment of chronic hepatitis C with direct-acting antiviral agents at Infectious Diseases Department of Hospital de Curry Cabral – CHLC, Lisbon, Portugal</td>
<td>P_15</td>
<td>17</td>
</tr>
<tr>
<td>Simões, P.</td>
<td>Impact of ledipasvir/sofosbuvir treatment on co-infected HIV patients treated with tenofovir combined with a boosted protease inhibitor – real life data from Infectious Diseases Department in Hospital de Curry Cabral, CHLC, Lisbon, Portugal.</td>
<td>P_28</td>
<td>29</td>
</tr>
<tr>
<td>Tavares, A.</td>
<td>Chronic Hepatitis C treatment in monoinfected and HCV/HIV co-infected patients with direct acting antivirals in a real life setting.</td>
<td>P_21</td>
<td>23</td>
</tr>
<tr>
<td>Valencia La Rosa, J.</td>
<td>High incidence of new HCV infections in a cohort of drug users followed in a Unit of Harm Reduction in Madrid</td>
<td>P_44</td>
<td>42</td>
</tr>
<tr>
<td>Valente, C.</td>
<td>Hepatic transient elastography in HIV-HCV co-infected patients after achieving sustained virologic response with direct acting antiviral agents</td>
<td>P_42</td>
<td>41</td>
</tr>
<tr>
<td>Valente, R.</td>
<td>HCV chronic infection treatment with DAA: who are the patients that are not achieving sustained virologic response?</td>
<td>O_2</td>
<td>4</td>
</tr>
<tr>
<td>Vargas Gonzalez, H.</td>
<td>Continuum of HIV Care and Prevalence of Co-infection of Hepatitis C in Patients Deprived of their Freedom in Mexico City (2014-2016)</td>
<td>P_41</td>
<td>40</td>
</tr>
<tr>
<td>Yancheva, D.</td>
<td>Compromised T cell Response Regulation in HCV Co-Infected HIV+ Subjects</td>
<td>P_43</td>
<td>42</td>
</tr>
</tbody>
</table>