outcome of interest. Predictor variables studied were age, sex, duration prior to ART initiation and duration on ART, ART regimen, orphan status, baseline WHO staging and adherence. Bivariate analysis and multivariate logistic regression were used to establish determinants of non-suppression.

Results We included 1,066 CLHIV of whom 51.3% were female, median age was 7.5 years (IQR 5.7– 9) and a quarter were orphans. Median duration on ART was 51 months (IQR 31–79), 20.4% were on second line ART regimen with an overall viral suppression rate of 88%. Children who had been on ART for a longer duration (>5 years) were more likely to be suppressed [aOR=0.38, (95% CI)=0.17–0.86], $p=0.02$. A protease inhibitor containing regimen was associated with non-suppression on bivariate analysis [OR=2.43, (95% CI = 1.04–5.65), $p=0.039$] however this was not significant in multivariate analysis. Non-adherence to ART increased five-folds the odds of non-suppression [aOR=5.47, (95% CI = 1.12–26.69), $p=0.035$] whereas those who were orphans were more likely to be suppressed [aOR=0.56, (95% CI = 0.37–0.86), $p=0.007$].

Conclusion CLHIV within our study population had sub-optimal viral suppression. Innovative strategies to address adherence remains crucial in addressing non-suppression.

Disclosure No significant relationships.

P167 PCR DETECTION OF HIV PROVIRAL DNA IN BRAIN TISSUES FROM DEAD HIV/AIDS IN ZAMBIA

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Background The prevalence of HIV-associated neurocognitive disorders (HAND) was highly prevalent In Zambia. But very little is known about the effect of ART on HIV subtype C associated neurological disease.

Methods Brain and lymphnodes tissues: from autopsies of dead HIV+/AIDS patients, provided by local hospitals. First, frozen tissue blocks were cracked, DNA was extracted. Then, Env V2-V5 region of HIV proviral DNA was amplified by PCR with clade C specific primers. 2.0 µg of template DNA was employed with Fast Start HF and platinum pfx DNA. Finally, phylogenetic trees were drawn.

Results Out of 12 HIV/AIDS cases detected, 6 cases were found to be HIV DNA positive for at least 1 positive in total 7 different brain tissues (FL,PL,TL,OL,H,C,BG), and their lymphnode samples were also HIV positive the same time. So HIV infection rate of brain was 50%. For the 2 ART non-treated cases, 85.7% (12/14) of the samples of different tissue was HIV positive, while it was 17.6% (6/34) in 7 ART treated cases. All DNA sequences were blasted as HIV subtype C, and clustered with subtype C reference strains.

Conclusion In this study, the HIV infection rate in all brain tissue samples in untreated cases (87.5%) was much less than that in treated cases(17.6%). It suggested that ART may help control the spread of HIV infection in brain tissues.

Disclosure No significant relationships.

P168 MULTIDRUG RESISTANT TUBERCULOSIS IN TB/HIV CO-INFECTED PATIENTS IN RIVERS STATE, NIGERIA

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Background Tuberculosis poses a serious health problem worldwide with a high mortality rate, especially in immunocompromised individuals. The emergence of drug-resistant forms of tuberculosis further burdened with high prevalence of HIV threatens to make this important human disease difficult to manage. Nigeria is currently listed among the 30 high burden countries for TB, TB/HIV and DR-TB. This study was carried out to determine Mycobacterium tuberculosis resistance pattern to first-line anti-TB drugs (rifampicin and isoniazid) in TB patients who were HIV seropositive in Rivers State.

Methods Two hundred and sixty HIV sero-positive patients $\geq$ 18 years old were recruited from three health care facilities in Rivers State. The subjects were separated into two groups consisting of 130 TB/HIV co-infected patients on anti-tuberculosis treatment and 130 HIV seropositive patients, suspected of having tuberculosis and yet to commence anti TB treatment. Sputum samples were processed by line probe assay (MTBDRplus by HAIN Lifescience). Analysis were carried out with the SPSS v20 software.

Results Of the 260 recruited HIV seropositive subjects, 159 were positive for TB: 127 from the treatment exposed group and 32 from the treatment naïve group. Among all the TB/HIV co-infected subjects, MDR-TB was detected in 10.1% (16/159) of the study subjects. Among the treatment experienced group, MDR-TB was detected in 11.0% (14/127), INH-mono-resistance in 15.7% (20/127) and RIF-mono-resistance in 11.8% (15/127) while 6.3% (2/32) of treatment naïve subjects had MDR-TB, 12.5% (4/32) had INH-mono-resistant TB and 6.3% (2/32) had RIF-mono-resistant TB.

Conclusion Primary MDR-TB was prevalent in Rivers State (6.3%). This implies a high level of ongoing transmission of MDR-TB in TB/HIV co-infected individuals within the community. The DOTS program needs to be strengthened to capture TB/HIV co-infected individuals early enough to manage them promptly.

Disclosure No significant relationships.

P169 ASSOCIATION BETWEEN CXCR4 AND TRAIL PATHWAY EXPRESSION IN CD4 T LYMPHOCYTES FROM HIV+ ART-NAÏVE PATIENTS

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Background HIV infection is characterized by immune cells depletion, apoptosis is one of the main mechanisms described. It has been reported that, the union of HIV to coreceptor CXCR4 can induce Fas independent apoptosis on T cells. In a few *in vitro* studies it has been proved that stimulation of

CXCR4 with gp120, can cause upregulation of TRAIL receptors and consequent sensitivity to apoptosis by this pathway. In this work, our aim was to measure if CD4+T lymphocytes from HIV+ patients, had and increased expression of TRAIL ligand and death receptors (DR) 5/4 and coreceptor CXCR4 and, evaluate its association

Methods Ten HIV+ ART naïve patients and seven HIV-donors were recruited. The immunophenotyping of CD4+T lymphocytes was performed with CD3+/CD4+ labeling, after that the TRAIL death receptors DR4 and DR5 as well as the TRAIL ligand and the coreceptor CXCR4 were measured for expression and MFI (median fluorescence intensity) by flow cytometry in whole blood samples

Results CD4+T lymphocytes from HIV+ patients showed an augmented expression and MFI of both death receptors and TRAIL ligand compared with the healthy controls; on the other hand, expression of coreceptor CXCR4 was increased in the HIV+ group and the MFI showed a significant difference compared to healthy subjects. Correlations between DR4 and the TRAIL ligand with CXCR4 showed no significance; in contrast, both expression and MFI of DR5 and CXCR5 were significant and showed a strong direct correlation (expression: $p < 0.05$ $r = 0.69$ and MFI: $p < 0.005$ $r = 0.81$).

Conclusion There is evidence of apoptosis triggered by CXCR4 activation, not related to the Fas pathway, which is one of the main causes related to cell depletion in HIV infection. The upregulation of the TRAIL pathway in HIV infected subjects is correlated with the CXCR4 expression, which could be the cause of the reported apoptosis in these patients.

Disclosure No significant relationships.

P170

EFAVIRENZ BASED ANTI-RETROVIRAL REGIMENS IN PAEDIATRICS: A PEEP INTO NEUROPSYCHIATRIC AND BIOCHEMICAL DERANGEMENTS

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Background Combination antiretroviral therapy (ART) has transformed HIV-AIDS into a chronically manageable illness. Efavirenz is an important component for ART regimens. Quality of life should be maintained for the easy continuation of this life-long therapy. Hence the adverse drug reaction (ADR) monitoring has become an important event to achieve good adherence

Objective This study aims to assess the spectrum of clinico-biochemical and neuropsychiatric ADRs for Efavirenz based ART in paediatric HIV patients

Methods Paediatric HIV-1 patients initiated with Efavirenz based ART were followed up for biochemical changes (liver, renal, lipid, haemoglobin parameters) and neuropsychiatric

adverse reactions (NPARs) till 6 months. NPAR(s) were monitored using Developmental Psychopathology Checklist and Sleep Disturbances Scale for Children. Adherence and guardian's literacy status were analyzed for their association with the self-reporting of NPAR(s).

Results NPARs were observed to be maximum at 15th day, followed by a gradual decrease over 1st and 2nd month. Symptoms like learning disorder and psychosis were maximum, followed by hyperkinesia, emotional disorder and somatisation. Domains of sleep problems were maximum at 15th day, followed by a graded decrease in the 1st and 2nd month. Self-reporting was found to be 57.14% and 37.50% in guardian with secondary and primary education respectively. Decreased adherence was noted among 16.67% of patients, managed by proper counseling. While biochemical changes like liver function alterations were observed to be maximum at 6th month (30.39%) and 4th month (7.84%), changes in renal function and lipid parameters were observed to be maximum at 6th month and drop in haemoglobin at 3rd month.

Conclusion Sensitization about NPAR(s) should be ensured at the time of therapy initiation to warrant adherence and spontaneous reporting in order to prevent resistance and treatment failure. ART induced anaemia, altered lipid profile, liver and kidney function derangements could be life threatening. This study thus upsurges the need for focused pharmacovigilance and therapeutic drug monitoring of ART for safer patient outcomes.

Disclosure No significant relationships.

P171

ZBTBS GENE EXPRESSION IN CD4+ T CELLS AND SYSTEMIC PRO-INFLAMMATORY CYTOKINES IN NAÏVE AND TREATED HIV PATIENTS

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Background Chronic inflammation in HIV infection has been associated with accelerated disease progression. Several external host factors contribute to inflammation like, microbial translocation and coinfections; as well as host intrinsic mechanisms; such as immune activation and the regulation of factors that participate in inflammation pathways. Members of the transcriptional factors ZBTB have been associated with repression of proinflammatory cytokines; the objective of this work was to identify if ZBTB repressors could be contributing to cytokines levels decrease in HIV+ ART-treated patients.

Methods CD4+ T cells were isolated from 12 HIV- and 21 HIV+, subclassified as naïve (n= 8) and treated (undetectable for ≥ 1 year, n=13). Gene expression of ZBTB2, ZBTB4, ZBTB7B, ZBTB17, ZBTB38, BCL6 and ZNF131 was determined by qRT-PCR. Cytokine levels were quantified (IL-1 β , IFN- α , IFN- γ , TNF- α , MCP-1, IL-6, IL-8, IL-10, IL-12, IL-17, IL-18, IL-23, IL-33) by flow cytometry in serum. Kruskal-Wallis test was used for statistical analysis.

Results In naïve patients, only ZBTB7B showed a significant up-regulation (2.76 fold). BCL6, ZBTB4, ZBTB38 had an increase but, were not significant (1.01, 0.91, 0.13 fold respectively); treated patients showed a significant up-regulation in ZBTB7B, ZBTB4 and ZBTB38 (2.23, 1.13, 1.04 fold respectively) and, BCL6 had 1.02 fold, however, it was no