

Background The incidence of syphilis has increased in Hungary (6.3/100000 in 2012), with simultaneous increase in neurosyphilis incidence. The aim of this study is to summarise our experience on clinical and serological characteristics, the treatment results, and association with HIV-infection.

Methods clinical, serological and cerebrospinal fluid (CSF) analysis: RPR/VDRL, TPPA/TPHA, TP ELISA, TP IgM/IgG Western blot, albumin, mononuclear cell count of 8 patients with neurosyphilis. The diagnosis of neurosyphilis was based on clinical symptoms, syphilitic serology, the positive results of VDRL and/or TPHA tests, and the increased number of mononuclear cells in CSF.

Results The 7 male and 1 female patients were between 25 and 84 years of age. 4 male patients were HIV-positive, 3 of them were MSM, one was bisexual. 5 patients had neurosyphilis with symptoms such as headache, dizziness, central facial palsy, visual impairment, sensory loss, diminished tendon reflexes.

Asymptomatic patients had schizoaffective disorder, visual impairment, syphilitic reinfection respectively, neurological symptoms were observed more frequently in patients with HIV-infection.

TPPA/TPHA test in 7 patients', VDRL test in 3 patients' and increased number of mononuclear cells in 7 patients' CSF were positive. All patients were treated with high dose intravenous benzyl penicillin (24 million units iv. daily for 14 days), the effectiveness of treatment was documented by the improvement in clinical symptoms and by the decrease of RPR titer.

Conclusion The clinical course was similar in patients with HIV and without it. One third of patients with neurosyphilis was symptoms free, the remaining of them presented clinical symptoms of neurosyphilis. The adequate indication of CSF examination is essential for the diagnosis of neurosyphilis. The long-term penicillin therapy was effective in our cases.

P2.191 DC-SIGN,DC-SIGNR AND SDF-1 POLYMORPHISM IN HIGH RISK SERONEGATIVE SEXUALLY TRANSMITTED DISEASE PATIENTS FROM NORTH INDIAN

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Background Dendritic cells are the first to encounter HIV-1 at mucosal sites and virus binding occurs via receptors known as DC-SIGN/R. Variations in the number of repeats in the neck region of DC-SIGN/R are reported to possibly influence host susceptibility to HIV-1 infection. A single nucleotide polymorphism (SNP) in SDF-1, the natural ligand for the HIV-1 co-receptor CXCR4, is implicated to have protective effects against HIV-1 infection.

Methods The repeat region polymorphisms in DC-SIGN/R by PCR and SNP of SDF1-3'A by PCR-restriction fragment length polymorphism (RFLP) in 230 healthy HIV seronegative individuals, 200 high risk sexually transmitted disease (STD) patients seronegative for HIV and 230 HIV-1 seropositive patients from northern India. The study was approved by the institutional ethics committee.

Results The frequency of homozygous *DC-SIGNR* 7/7 genotype and allele 7 was significantly higher in patients infected with HIV-1 ($P < 0.0001$) whereas frequency of heterozygous *DC-SIGNR* 7/5 genotype and allele 5 was significantly higher in high risk STD patients seronegative ($P = 0.003$). The heterozygous *DC-SIGNR* genotypes 7/5 and allele 5 was associated significantly with high CD4⁺ T-cell count and low viral load compared to homozygous *DC-SIGNR* 7/7 genotype and allele 7 in patients infected with HIV-1. *DC-SIGN* genotype 7/7 was most frequent in all three groups. A significantly higher frequency of *SDF1-3'A/SDF1-3'A* was observed

in high risk STD patients as compared to HIV seropositive ($p = 0.005$) and healthy HIV-1 seronegative tested individuals ($p = 0.001$).

Conclusion The significant higher frequency of heterozygous *DC-SIGNR* 7/5 and *SDF1-3'A* genotypes in high risk STD patients and with high CD4⁺ T-cell count and low viral load in HIV-1 seropositive patients suggesting the protective role of this genotype in HIV-1 infection.

P2.192 VAGINAL EPITHELIAL THICKNESS AND SERUM HORMONE LEVELS BY BODY MASS INDEX AT THE LUTEAL AND FOLLICULAR PHASES OF THE MENSTRUAL CYCLE

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Background Obesity is increasing in the United States and is associated with reproductive disorders. Little is known regarding the precise mechanisms by which obesity impacts reproductive health, but many studies have shown alterations to endocrine function in obese women. Further, the endocrine system alters immune system function and regulates vaginal epithelial thickness. Thus, obesity could alter susceptibility to sexually transmitted infections via two distinct biological pathways.

Methods We analysed pre-product use data from a 101 women (aged 18 to 40) with normal menstrual cycles in a Phase I trial to assess the association between body mass index (BMI ≥ 30 compared to BMI < 30), serum hormone levels and vaginal epithelial thickness at two points in the menstrual cycle, the luteal and follicular phase, based on self-reported last menstrual period (LMP). We collected vaginal biopsies at each visit for analysis of epithelial thickness and count of basal, transitional and superficial cell layers, and blood samples for circulating hormone levels. We used median rank sum tests and linear regression models to compare outcomes by BMI status, adjusting for a priori hypothesised confounders.

Results While there was no difference in total median vaginal epithelial thickness between obese and non-obese women, obese women had fewer layers of superficial vaginal epithelium (median of 15.4 vs. 13.3 layers, $p = 0.04$) than their non-obese counterparts during the luteal phase, even after adjusting for race, age, parity and education (as a marker of socio-economic status, $p = 0.08$). In preliminary analysis, obese women had significantly lower median estrone (E1) and progesterone (P4) plasma levels than non-obese women during the luteal phase. No significant differences were seen in the follicular phase.

Conclusion The effect of obesity on the endocrine system could alter the cervico-vaginal milieu and, thus, women's susceptibility to sexually transmitted infections. Further research is warranted to explore this causal pathway.

P2.193 OCULAR SYPHILIS IN HIV-NEGATIVE PATIENTS

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Background Ocular syphilis is reemerging in the last decade in several countries around the world. However, little is known about the clinical and Cerebrospinal fluid (CSF) characteristics in HIV-negative individuals.

Methods We retrospectively reviewed the clinical records of 20 ocular syphilis patients presenting to Shanghai Clinical Center who completed CSF examination during the period from Jan 2011 to Nov 2012. Chief complaint, demographic data, syphilis serology, HIV serology and CSF examination results were collected. Factors that influenced the abnormal CSF results were explored.

Results The interval between ocular disease onset and the first visit at our hospital ranged from 2 weeks to 20 years (median 4 months). The mean age was 52.4 years, 14 patients were male and 6 were female. All patients tested negative for HIV infection. Median serum TRUST titer was 1:16 (ranged from 1 to 512). 14 (70%) of the 20 patients had abnormal CSF (elevated WBC or protein levels or reactive VDRL results). Of which, 11(55%) had elevated WBC cells, 11 (55%) had elevated protein level, 8 (40%) had reactive VDRL results. Patients with higher serum TRUST titer (≥ 8) were more likely to have an abnormal CSF results.

Conclusion Unlike most of the ocular syphilis reports in recent years, the co-infection of syphilis and HIV was less commonly observed in China. Most (70%) of these HIV-Negative patients had an elevated CSF WBC or protein level even with a moderate serum TRUST titer. Reactive CSF VDRL rate is not very high in our study.

P2.194 QUALITY IMPROVEMENT: COTRIM PROPHYLAXIS IN HIV POSITIVE ADULTS ON ANTIRETROVIRAL TREATMENT

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Background At "Centre de Santé de Cerca-La-Source", a health clinic in rural Haiti, it was remarked that despite best efforts a number of patients with low CD4 counts and on ART have not been given access to cotrimoxazole prophylaxis. This in turn leads to increased vulnerability to opportunistic infections potentially raising the morbidity and mortality rates in the area.

Methods The tools and methodology of Quality Improvement in HIV care were used to quantify the problem. A prospective interventional study was put in place for a 6 month period: Apr-Sept 2012. During the 3 semesters prior, the percentage of patients receiving the prophylaxis was: 47%, 46%, 46% (Oct 2010–Mar 2011, Apr 2011–Sept 2011, and Oct 2011–Mar 2012 respectively). This project aimed to reach 90%. The assigned team through brainstorming techniques and a modified Ishikawa diagram identified causes and two main interventions dubbed: validation and synchronisation.

Results Measurement was taken after full synchronisation between EMR (Electronic Medical Record) with the pharmacy data and patient hardcopy files, all done after each intervention within a period of two weeks past each. From the 1st intervention: an increase of 14.84% of the indicator and after the second increase of 19%, leading finally to 83.23%. Final evaluation of the indicator at the end of the period after continued application of the interventions showed 93.55%, a little over the targeted 90% objective.

Conclusion This lead to greater care in verification of data integrity within our system. Patient care is automatically improved once there is betterment of a system in place to monitor what has been done and what needs to be done. Furthermore, prophylaxis reduces the mortality rate and the probability of ailments that will require hospitalisation of the patients. In a resource limited system, the discordance between EMR and reality can be quite enormous.

P2.195 A CASE SERIES OF TENOFOVIR INDUCED NEPHROTOXICITY

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Introduction Tenofovir (TDF) is a commonly used nucleotide reverse transcriptase inhibitor, effective in the management of

HIV-positive individuals and chronic Hepatitis B infection. We report two cases that highlight the rare but significant nephrotoxic adverse effects of TDF on mitochondrial-rich proximal renal tubular cells, causing acute and chronic kidney impairment. We also show that removal of TDF results in partial improvement of the renal dysfunction.

Case reports The first case describes a patient with long standing HIV who develops Fanconi syndrome, nephrogenic diabetes insipidus, acute tubular necrosis and tubulointerstitial nephritis, three years after TDF initiation. The second case reports a patient who developed acute severe kidney injury, requiring management with emergency haemodialysis, two weeks after TDF was initiated. In both cases renal biopsy showed extensive tubular injury and histology consistent with TDF induced renal injury. Both individuals had improved renal function following TDF cessation, but ongoing chronic kidney disease.

Discussion Nephrotoxicity has been demonstrated in 17–22% of TDF-treated patients and occurs due to TDF accumulation in cell membrane transporters within proximal tubular cells, where it targets the mitochondria. TDF-related nephrotoxicity presents in a number of ways including proximal tubular dysfunction, acute and chronic kidney injury and a partial or complete Fanconi syndrome. Histological findings most commonly show proximal tubular injury. TDF specific histology is related to prominent eosinophilic intracytoplasmic inclusions, representing giant mitochondria.

Conclusion TDF is a popular choice of antiretroviral therapy due to its efficacy, low side effect profile and use in monotherapy regimes. These cases highlight the potentially life-threatening complications of TDF-related nephrotoxicity. It also shows the importance of renal function monitoring and the withdrawal of TDF to prevent chronic renal impairment.

P2.196 COMPARATIVE DETECTION OF CHLAMYDIA TRACHOMATIS IN CLINICAL SPECIMENS OBTAINED FROM GENITAL AND EXTRAGENITAL SITES

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Background Diagnosis of urogenital Chlamydia infection can be a challenging task in some cases due to difficulties in detection of the pathogen at the anatomical sites of humans. The goal of this study was to compare the efficiency of detection of *C. trachomatis* in samples obtained from different anatomical sites of patients.

Methods Clinical specimens from both genital (urethra, cervix) and extragenital sites (pharynx, conjunctive) were collected from patients with either urogenital (Group 1, n = 7) or extragenital Chlamydia infection (Group 2, n = 2). Presence of Chlamydia in these samples was determined by PCR with primers to the *C. trachomatis* cryptic plasmid genes, as well as by commercial direct fluorescent test (DFT) and dot-ELISA.

Results Among Group 1 patients, 85.7% urethral & cervical, 75% conjunctive and 50% pharyngeal samples were positive in PCR. Notably, DNA isolated from specimens of one individual showed negative result to Chlamydia at anatomical site, yet displayed a positive reaction in samples taken from both extragenital sites. Moreover, 100% of samples obtained from all different sites reacted positively in dot-ELISA for each patient. Six out of seven patients were positive for Chlamydia by DFT assay in samples acquired from the genital site (urethral & cervical scrapes). Group 2 patients gave 100% positive response in PCR tests with DNA from genital and at least from one of the extragenital sites.