

OP-01

Immunological Studies of Secreted Protein (s) Antigens from *Mycobacterium tuberculosis* for Diagnostic Marker and utility in Vaccine

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Tuberculosis, caused by *Mycobacteria*; mainly *Mycobacterium tuberculosis*, is a major infectious disease of the respiratory system. An early diagnosis followed by chemotherapy is the major control strategy. In an effort to identify the antigens suitable for immunodiagnosics and vaccines, we cultured *M. tuberculosis* H37Rv in Souton's medium, isolated and purified the secretory proteins employing anion-exchange column chromatography. The apparent molecular mass of these proteins were determined to be 30KDa, and 6KDa. The serological potency of these proteins and cocktail of both were analyzed by the detection of the respective antibodies present in a pool of the tuberculosis patient's sera employing western blot and ELISA methods. We found that these two secretory proteins of *M tuberculosis* were highly immunogenic and significant for tuberculosis diagnosis. These findings might be promising for use in the serodiagnosis as well as utilization of vaccine strategies in near future.

OP-02

HIV-Leishmania Co-infection: A Retrospective Study from India

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A retrospective study was undertaken to investigate the occurrence of HIV- Leishmania co-infection in India and the limitation of serology in diagnosis and prognosis of Leishmaniasis in these patients. A total of 100 patient samples with clinical suspicion of Kala-Azar were included in the study. The diagnosis of leishmaniasis was made by demonstrating the LD bodies in the bone marrow/ splenic aspirate/ skin biopsy followed by antibody detection using recombinant antigens rK39 and rKE-16. Positive samples were tested for HIV using commercially available kit from Adaltis® and confirmed by western blot (Biorad®, USA). The samples positive in qualitative screening tests were further analyzed by rKE-16 quantitative ELISA using 2-fold serial dilution in PBS (from 1:100 to 1:4096000) to determine the end point antibody titers. Results showed that out of 100 samples, 25 patients had *Leishmania donovani* infection. Of these 25 patients, 19 (76%) were males and 6 (24%) females. The age of patients ranged from 2.5 years to 61 years with overall mean of 25 + 17.3. Of these only 6 (24%) were found to be HIV-Leishmania co-infected. One patient had triple infection of Leishmania, *Mycobacterium tuberculosis* and HIV. The anti-Leishmania antibody end point titers were found significantly lower in co-infected cases ($p < .017$) than the HIV uninfected patients. This study showed the emerging trend of HIV-Leishmania co-infection in Indian sub-continent and therefore more awareness is required. Also, the humoral response to Leishmania is severely compromised in HIV co-infected patients, leading to a fatal outcome in these patients.

OP-03

Spectrum of Opportunistic Infections in HIV Infected Patients

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Opportunistic infections are the leading cause of morbidity and mortality among HIV infected patients. The types of pathogens responsible for such infections vary from region to region. The spectrum of these pathogens in HIV positive cases is not clear in the recently formed state of Chhattisgarh. The aim of present study was to confirm suspected HIV cases and subsequently to identify opportunistic pathogens, if present. HIV infection in patients were confirmed when at least two of the enzyme immuno assay methods viz. HIV spot, HIV ELISA, HIV Tri-dot and HIV I & II Western blot were positive. Sero-screening of 363 clinically suspected cases of HIV, showed positivity in 53 (14.6%) patients. They presented with diverse symptoms like fever, weight loss, cough and dyspnoea, dysphagia, chronic diarrhoea. Microbiological investigation yielded 42 pathogens from 34 (64%) cases with a pathogen patient ratio of 1.2 (42/34). Single and dual pathogen was recovered in 26 and 8 patients respectively. Nineteen patients had infections of uncertain pathogenesis and hence, were not included. Majority of patients were male heterosexual in the age group of 20-39 years. *Mycobacterium tuberculosis* was the commonest isolate (16/42; 38%) followed by *Cryptosporidium* sp. (7/42; 16.7%) and *Candida* sp. (6/42; 14.3%). Other pathogens including *Cryptococcus neoformans* (7.1%), *Isospora* (7.1%) and *Pneumocystis carinii* (4.7%) were also detected. Finding and reporting of enteric coccidian parasites was done for the time in this socio-economically challenged part of country. Further studies are required to establish regional epidemiology of opportunistic infection among HIV infected persons in states like Chhattisgarh where such studies are almost non-existent.

OP-04

Study of Central Nervous System Profile Microbes in HIV positive blood donors

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This study was done to demonstrate the Central nervous system profile microbes as co-infectious agents in HIV positive blood donor samples and to compare the microbes occurring in these asymptomatic donors with microbes in AIDS cases. In 1 year, 2008 blood samples from the blood bank, Apollo Specialty Hospital, Madurai were screened for HIV antibodies by two ELISAs. The positive samples were subjected to Indirect Immunofluorescence by titreplate technique to detect IgG antibodies to 20 CNS profile microbes including bacteria, parasites and viruses. The microbes detected were compared with organisms occurring in cases of AIDS. Out of 2008 samples screened, 28 showed HIV positive (1.7%). IgG antibody was detected in 89.2% Epstein-Barr virus, 71.5% Adeno, 60.8% *Varicella*, 57.1% Coxsackie-B1, 35.7% Coxsackie-B7, 35.7% Measles and 10.6% HSV antigens coated wells. Antibodies for Toxo, *Borellia*, Cytomegalovirus, *Hemophilus influenzae* and Echo which were otherwise common in AIDS were not demonstrated. Out of 28 positive samples, 17 showed more than 4 microbes (60.7%) in the same sample. EBV, *Adeno*, *Varicella* and Coxsackie were demonstrated in blood donors who were asymptomatic, and perhaps in the early phase of illness unlike Toxo, CMV and *H. influenzae* which were common in AIDS cases, may be due to varied changes in the different phases and better immune status which allowed only the common viruses in the locality not the rarer microbes. CNS Profile microbes occur together in HIV positive blood bank samples. EBV, Adeno, *Varicella* and Coxsackie were commonly seen in these asymptomatic donors in contrast to Toxo, CMV, and *H. influenzae* which are common in AIDS cases. Thus there may be possibility of occurrence of co-infectious agents even in the asymptomatic blood donors, perhaps by the organisms in the locality.

VDRL reactivity among HIV positives versus HIV negatives attending VCTC

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Syphilis is not technically an opportunistic infection; it does present particular problems in HIV infected individuals and vice versa. Emerging epidemic of AIDS in India has made sexually transmitted infections (STI) control as one of the most important one to decrease HIV transmission in the community. Studies on prevalence of syphilis in VCTC attendees are lacking from India. The present study was aimed to know the sero-reactivity of VDRL in HIV positive versus HIV negatives individuals attending Voluntary Counseling and Testing Center (VCTC) at K.G.M.U. Lucknow. A total of 220 random sera were screened for VDRL and TPHA from individuals who attended the center. Serum titers of 1:16 and above were considered strongly reactive in VDRL. Out of 220 sera screened 171 were HIV negative and 49 were HIV positive. Among HIV negatives 29 % (50/171) sera were strongly reactive; 31.6 % (54/171) mildly reactive (titer 1:8) for VDRL while TPHA was positive in 4.2% (4/95). Between 49 HIV positive sera screened, 8.2 % (4/49) were strongly reactive; and 14.3% (7/49) were mild reactive for VDRL test and none of the sera were positive by TPHA test. Result showed the prevalence of syphilis in the VCTC attendees as per VDRL positivity was high among HIV negatives as compared to HIV positives. VDRL reactivity among HIV negatives may be one of the indications for developing HIV infection in the future.

OP-06 Seroprevalence of HIV and other Sexually Transmitted Infections in

pregnant women and their vertical transmission to the newborns

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The incidence of HIV and other sexually transmitted infections has been increasing every year during the last few decades. Also, the number of pregnancies/ newborns is increasing simultaneously. The superimposition of one factor over the other can be expected to amplify further the effects of STI's on pregnant and neonatal morbidity. Infection with HIV has become a global pandemic and incidence is increasing in pregnant women. Therefore, the benefits of antenatal screening are ensured particularly in terms of reducing vertical transmission. The study was undertaken to determine the seroprevalence of HIV, HCV and syphilis in 515 pregnant women and their vertical transmission to newborns. Blood samples from mother and cord blood samples from newborns were taken and tested for HIV, HBV, and HCV by ELISA and syphilis by VDRL and TPHA. Seroprevalence of HIV was 0.8% with a vertical transmission of 50%. Seroprevalence of HBsAg was 3.6% with a vertical transmission of 26% and anti HCV antibodies were prevalent in 3.9% with a vertical transmission of 50%. Syphilis was prevalent in 0.8% of the females with no vertical transmission. To conclude, STI's has reached low risk group like antenatal females. Therefore, screening for STI's in antenatal group should be undertaken to protect against the risk of vertical transmission. Immunization and prophylaxis of newborn at risk against Hepatitis B and HIV is one effective strategy to prevent vertical transmission.

OP-07

Comparative evaluation of multiplex PCR for detecting mycobacterial infection in HIV Positive and Negative patients

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To detect the mycobacterial infections directly from clinical samples obtained from suspected cases of pulmonary and extra pulmonary tuberculosis using in-house multiplex PCR. One hundred and seventeen samples from clinically suspected case of tuberculosis were processed for detection of Mycobacterial infections by ZN smear examination, LJ medium culture, BACTEC™MGIT 960 culture and PCR tests. A significant difference was seen in the sensitivities of different tests; 17.3% for ZN smear examination, 32.1% for LJ culture, 42.0% for BACTEC culture and 69.1% for multiplex PCR test. PCR Sensitivity in pulmonary and extra pulmonary clinical samples were 71.43% and 65.63%, respectively and found to be significantly higher ($P<0.05$) when compared with other tests. The mean detection time for *M.tuberculosis* was 19.03 days by LJ medium culture, 8.7 days by BACTEC culture and one day by PCR test. MTB + *M.avium* co-infection was found to be 2.28% in HIV negative and 6.6% in HIV positive patients. In-house multiplex PCR can be used for the identification of dual mycobacterial infection. Mycobacterial infection rate among the AIDS patient was found to be 63.9% and 53.3% in HIV negative patient.

OP-08

Drug Resistant Tuberculosis In Delhi: Prevalence and Risk Factors Among the HIV and TB Co-Infected Patients

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Smear microscopy is problematic for detecting TB among HIV infected persons. Moreover, the prevalence of drug resistant TB within Delhi is not thoroughly documented. We determine the prevalence of TB among injection drug users (IDUs), persons at high-risk for HIV infection, and those known to be HIV positive. We also determine the prevalence of drug resistant TB and behavioral risk factors within these groups. Sputum was collected from persons aged 18 and older who were IDUs, at high-risk for HIV infection, or known to have HIV. Samples were collected from individuals attending HIV and DOTS clinics offering services in Delhi. Participants provided informed consent and responded to an interviewer administered questionnaire. The All Indian Institute of Medical Sciences analyzed sputum for smear, culture and drug sensitivity. Participants were informed of their results and those found to be infected were referred for appropriate treatment. We utilized SAS Statistical Software to perform frequency distributions, odds ratios with 95% confidence intervals, and logistic regression analysis. The majority of participants recruited to date ($n=129$) are male (95%), IDUs (70%), and earn less than 2500 Rupees per month (69%). Preliminary analysis detected 29% TB positive sputum culture growth. Of the positive cultures, 65% were initially smear negative. Multivariate logistic analysis was conducted to determine the association between behaviors, drug resistant TB, and TB/HIV co-infection. The study suggest that monitoring the prevalence of drug resistant TB among high-risk individuals in Delhi is pertinent for improving epidemiologic, diagnostic, and public health policy strategies.

OP-09

Microsporidia as an emerging cause of parasitic diarrhoea in HIV seropositive individuals in Mumbai

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Diarrhoea caused by opportunistic protozoa is one of the commonest complications seen in the course of HIV disease and is a cause of considerable morbidity and mortality. The present prospective study was conducted by collecting 100 stool samples of 64 HIV seropositive individuals with diarrhoea to identify the parasitic agents with special reference to the detection of Microsporidia in their stool samples. Parasite yield was also compared with CD4 +T cell counts. The samples were examined grossly and microscopically as wet mounts and smears using modified acid fast and modified trichrome stains. Formalin ethyl acetate sedimentation was the method employed to concentrate the parasites. Isospora was the commonest parasite identified (18.75%), followed by Microsporidia (17.18%). *Cryptosporidium* and *Strongyloides stercoralis* were identified in 3.12% cases, each. Concentration of stool samples by formalin-ethyl sedimentation and subsequent staining by modified acid fast was the best method to detect *Cryptosporidium* in stools, whereas it was not found to be suitable for concentration of Isospora oocysts. It was also not found suitable for microsporidial spores. Maximum parasite yield was seen in patients with CD4+T cell counts between 50 and 200 cells/ μ l.

OP-10 Toxoplasmosis: A silent opportunistic disease in HIV / AIDS patients

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A total of 693 HIV/AIDS patients were recruited in this retrospective study from April 2003 to December 2004, Hospital Kuala Lumpur, Malaysia. The age range was similar in both groups (M = 18-79 vs F = 18-73), and a median age was slightly higher in male (36 years) than female (31 years). The majority of them were significantly found between the age group of 25 to 34 years but a higher rate was found in female (42%) (p=0.000). Males were mainly Chinese (44.7%) and single (57.3%); while females were also Chinese (40.6%) and married (83.3%) (p=0.000). Heterosexual was significantly found to be the most common route of HIV transmission in both groups (M=47.6% vs F=86.2%) (p=0.000). The range of CD4 count was 0 to 1799 with a median of 230 cells/mm³. CD4 count of < 200 and e⁻ 200 cells/mm³ were more significantly found in male (48.5%) and female (63%) respectively (p=0.000). Toxoplasma seroprevalence was 43.85% where seropositivity was more strongly found in male, the Malay, intravenous drug user, toxoplasmic encephalitis (TE), and patients with anti-retroviral therapy including HAART (p<0.05). 17 AIDS-related TE patients were diagnosed at the time of this study. Hemiparesis was the most common neurological manifestation found in 11 (64.7%) patients and CT scan finding was shown multiple (58.8%), ring enhancing lesions (100%), and in parietal region (58.8%). 13 (76.5%) patients had completed treatment with continuing its maintenance; while 2 (11.8%) patients were lost to follow up, and 1 (6%) patient was transferred to other hospital.

OP-11

Prevalence of intestinal parasites in HIV infected subjects and high risk group for HIV infection in Nepal

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Present study was carried out to study the prevalence of intestinal parasites in HIV infected subjects and high risk group for HIV infection in Nepal. A total of 196 (112 HIV infected and 84 high risk group subjects) were included. Stool specimens were examined by direct smear, formal-ether sedimentation and Kinoyun modified Ziehl-Neelsen methods. Overall prevalence of intestinal parasites was 35.7% (70/196) (26.8% in HIV infected subjects and 47.6% in high risk group). *Trichuris trichiura* was the commonest parasite in HIV infected subjects (63.3%), whereas Hookworm was the commonest parasite among high risk group population (62.5%). There was an association of parasitic infections with the gastrointestinal tract symptoms in both the groups. Multi-parasite infections were relatively more common among HIV infected subjects (7.2%) than in high risk group population (4.8%) ($P>0.05$). Similarly the protozoan infections rate was relatively higher in HIV infected subjects (4.5%) compared with high risk group (1.2%). The opportunistic protozoa *Cryptosporidium parvum* was detected only in two HIV infected subjects (1.8%). Details of result will be presented.

Key words: HIV infection, high risk group, intestinal parasites, Nepal.

OP-12

Enhanced Cleavage of HIV-1 GAG RNA using DNazymes and Antisense Technology

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With the discovery of Ribozymes, it was obvious that that the focus would be shifted on to DNA for the same function. As a result DNA enzymes (Dzs) were discovered. These are the small catalytic molecules of DNA having the ability to cleave RNA in sequence-specific manner. The most widely used DNA enzymes are with 10-23 and 8-17 catalytic motifs. We have identified several Dz susceptible sites to both kinds of Dz in the HIV-1 GAG RNA that were located in the single-stranded loop regions using the RNA folding programme called "M Fold". All our Dzs, exhibited efficient cleavage at 1 to 5 mM MgCl₂ concentration which is close to the physiological levels. Keeping the fact in mind that HIV-1 mutates at a high rate, a chimeric DNA-enzyme having 10-23 and 8-17 catalytic motif sequences in tandem was created. This chimeric DNA-enzyme targeted two sites simultaneously in the HIV-1 GAG RNA. This chimeric DNA-enzyme had several novel properties as the cleavage efficiency of both the Dzs was increased substantially when they were in tandem sequence as compared to their individual efficiencies. Also when the 8-17 catalytic motif was disabled in chimeric Dz then cleavage efficiency of 10-23 Dz increased several folds leading to almost (>90%) complete cleavage of the target RNA. This suggested that we can screen for antisense directed against the same target RNA to increase the activity of Dzs, most probably by melting the secondary structures essential for optimum hybridization of Dz with the target RNA. We observed significantly enhanced cleavage by 10-23 portion of the chimeric Dz when the 8-17 motif was mutated and vice versa. Our data suggests that by screening several short antisense DNA oligonucleotides on a same target RNA, it is possible to achieve significantly enhanced cleavage by Dzs. This observation has immediate therapeutic implications.

OP-13

Sequence-Specific Cleavage of Vif RNA Of HIV1 Subtype B & Indian Isolate (Subtype C) By 10-23 & 8-17 DNA-Enzymes

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HIV-1 *vif* gene encodes a 23KDa basic protein that modulates viral replication and pathogenesis. Lately, it has been shown to interact with the 5'-region of genomic RNA and cellular cytidine deaminases of the APOBEC family. In order to selectively suppress the *vif* gene expression, we subjected the Vif RNA to M-fold program and designed several DNA-enzymes (Dzs) possessing either 10-23 or 8-17 catalytic motifs. These target sites were located in the predicted single-stranded region or bulge. The Vif gene from prototype B or subtype C was amplified by PCR and cloned into a T-tailed vector-pGEMT-Easy. Full length Vif RNA (substrate) was synthesized using T7 RNA polymerase in presence of labeled UTP. Equivalent amounts of labeled substrate RNA was allowed to interact Dz in presence of varying amounts of Mg²⁺. The 10-23 catalytic motif containing Dz was extremely efficient in carrying out the *in vitro* cleavage of Vif RNA of subtype B virus in extremely low amounts of Mg²⁺ and Ca²⁺. This Dz was functionally activated under simulated human physiological conditions also. Almost 100% cleavage was obtained in the presence of 1mM MgCl₂. Interestingly, despite the presence of one base mismatch between the subtypes C Vif target RNA, Dz could cleave, albeit poorly. This observation has implications for all target RNAs that are known to undergo mutation. On the contrary, the 8-17 Dz exhibited very poor cleavage activity. Whether chimeric 10-23 and 8-17 catalytic motifs containing Dzs' will be able to cleave the same target RNA at multiple target sites is currently being investigated.

OP-14

HIV Epidemic in Central India: Trends over Two Decades (1986 – 2005)

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The HIV pandemic is rapidly spreading in India. Sharp rise in HIV seroprevalence has been observed in high risk groups. The Indian epidemic is not only restricted to high risk groups but is gradually spreading in general population. We present a report on the occurrence of HIV seropositivity and trends over last two decades in a heterogenous group of people attending Voluntary Counselling and Testing Centre (VCTC) in Central India. A prospective study was carried out at the Voluntary Counselling and Testing Center (VCTC), Regional Medical Research Centre for Tribals, (Indian Council of Medical Research), Jabalpur. The study group comprised of persons attending the VCTC. A standard protocol was used to assess the medical history, demographic characteristics and risk behaviour. Pre and post test counselling was given to all the individuals. After obtaining informed consent, about 3 ml blood was collected from each participant. In addition to this, we also collected 1401 random samples from three primitive tribal groups of Central India, namely, Baigas, Hill Korwas and Bondos. The first Indian HIV positive person was reported in 1992 at the Centre. The occurrence of HIV infection increased from zero in 1986 to 19.3% in 2005. The HIV seropositivity was higher in males (8.6%) than in females (5.1%). Highest prevalence was seen in the age group of 25 – 29 years in both males and females. Heterosexual route was the commonest route of transmission.

OP-15

Study of HIV-1 resistance conferring polymorphism SDF 1- 3'A in Indian Family

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Stromal derived factor (SDF-1) is the natural ligand for the chemokine co-receptor CXCR4. This chemokine is involved in organogenesis and also in the regulation of HIV infection. Mutation in the SDF1-3' un-translated region (SDF1-3'A) is known to have protective effects against HIV-1 infection and disease progression. In our lab, we have studied the frequency distribution of SDF-1 3'A in 500 healthy northern Indians. The frequency of the SDF1-3' A allele in these individuals was high (20.4%). In order to study the inheritance pattern of this polymorphism (SDF1-3'A), we are presently conducting family studies, beginning with at least one healthy individual of that family who is identified as homozygous mutant for SDF1-3'A. This is the first study to see the inheritance of SDF1- 3'A, and would serve as a base line data on the inheritance pattern of SDF1 -3' A in Indian families.

OP-16 Prevalence of Penicilliosis (*P. marneffe*) Infection In AIDS Patients

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To study the prevalence of penicilliosis in AIDS patients. One hundred and sixty one AIDS patients admitted in Medicine Ward during June 2003 to December 2004 were included in the study. Samples including skin scrapings, FNAC from lymph node, abdominal lump and liver, sputum and body fluids were sent for mycological examination with determination of CD4 cell count (Becton & Dickinson method). Mycological procedures included direct microscopy using 20% KOH, Gram and Giemsa stains. Samples were cultured on Sabouraud's Dextrose Agar with Chloramphenicol and incubated at 25°C & 37°C. Body fluids were cultured on Brain Heart infusion agar. Contamination was ruled out by repeat culture. Of 161 AIDS patients, 20 patients had penicilliosis (12.42%). *P. marneffe* was isolated from skin scrapings (20), FNAC from lymph gland (5) and abdominal lump (2) and sputum (3). 9 (45%) cases had mixed fungal infections with *C. albicans* and/or *C. neoformans*. 80% of the patients had CD4 cell count < 100/mm³ and all were IDUs. Penicilliosis caused by a dimorphic fungus *P. marneffe* is an AIDS defining disease. Manipur is the only endemic zone of Penicilliosis in India. The state, bordering the endemic area Myanmar, is ecologically and culturally similar to other Southeast Asian countries where *P. marneffe* is prevalent. All the cases were treated with i.v. amphotericin B followed by itraconazole. 12 cases had good response to treatment, while 5 expired in hospital and 3 were lost to follow up. In this study penicilliosis was found to be common in AIDS patients with CD4 cell count < 100/mm³. Secondary prophylaxis with itraconazole is necessary to prevent relapse.

OP-17

Pulmonary Mycotic Infections In HIV Positive Patients and Antifungal Sensitivity Pattern of *C. albicans*

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Present study was aimed to isolate and identify various fungal agents responsible for respiratory infections in HIV positive patients and to check the activity of antifungal agents against isolated *C. albicans*. Bronchial washings of 26 HIV positive patients with clinical and radiological findings of pulmonary infections were processed for fungal pathogens. Antifungal susceptibility pattern against *C. albicans* was checked by disc diffusion method for fluconazole, itraconazole and Amphotericin B. In the results fifty percentage (13) of the samples were positive for mycotic infections on culture, of which 3(23.07%) were *Aspergillus* species and 10(76.92%) were *Candida* species. Two cases of *Aspergillus* had associated *Candida* infection. Out of 10 *Candida* species 6(60%) were identified as *C. albicans*, which showed 33.33% and 16.66% resistance to fluconazole and itraconazole respectively. However, there was no resistance to amphotericin B. Conclusion: Mycotic infections are an emerging problem in HIV positives. Our results emphasize the dynamic nature of *C. albicans* in a compromised host and its acquisition of resistance to the most commonly used antifungal agents. This study reinforces the importance of periodic, prospective surveillance of fungal isolates to determine appropriate prophylactic and empiric therapy for the HIV positive patients with pulmonary infections.

OP-18

Prevalence of Oral Candidiasis in HIV positive patients: A six years study

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The aim of the study was to investigate the prevalence, microbiological characteristics and antifungal susceptibility pattern of *Candida* sp. infecting the oral cavities of HIV infected patients in and around Aligarh along with the clinicoepidemiological profile. The patients referred to VCCTC, Department of Microbiology, J.N. Medical, Aligarh from 2000-2005 were screened for HIV infection. Fungal culture was done for HIV positive patients with oral ulcers and the isolates were identified. The antifungal susceptibility testing was performed against Clotrimazole, Fluconazole, Voriconazole, Amphotericin B and Nystatin. 219 patients tested positive for HIV over a period of 6 years. Of these 29 (11.6%) had active *Candida* infection showing profuse fungal growth on repeated culture. 23 (79.3%) were residents of Aligarh. 24 (82.7%) were males and the remaining 5 (17.3%) were females. Majority of the cases were in reproductive age group, 21 (72.4%). History of sexual contact was found in 24 (82.7%) cases and in 5 (17.8%) history of blood transfusion was elicited. Their presenting symptoms were oral ulcer (100%) of which 4 (13.7%) cases had oesophageal Candidiasis and 2 (6.8%) had cutaneous fungal lesions. Fever occurred in 23 (79.3%), weight loss 14 (48%), diarrhoea 12 (41.3%) tuberculosis 11 (37.9%), generalized persistent lymphadenopathy in 8 (27.5%) and herpes in 1 (3.4%) case. *C. albicans* predominated, 23 (79%); followed by 4 (13.7%) isolates of *C. tropicalis* and 1 (3.3%) isolate each *C. krusei* and *C. dublinensis*. Maximum resistance was found against fluconazole 4 (13.7%) in *C. albicans* 1 (25%) in *C. tropicalis*. *C. dublinensis* did not demonstrate resistance to any drug. No resistance was found against Voriconazole, Amphotericin B and Nystatin. Results showed that *C. albicans* was the most frequent isolated species and 5 (17.3%) demonstrated resistance against fluconazole. One strain of *C. dublinensis* was isolated which is a novel species associated with oral Candidiasis in AIDS and its identification and susceptibility testing is essential. Opportunistic infection by *Candida* species in HIV infected patients is leading cause of oral and esophageal complaints and is a predictor of poor long term prognosis and a reflection of severe underlying HIV immunodeficiency.

OP-19

Coinfection of HIV with Hepatitis B and Hepatitis C A Serological Study at Warangal

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The aim of this study is to demonstrate the association between HIV and hepatotropic viruses, especially Hepatitis B and C viruses, as their routes of transmission are the same. As the hepatotropic viral infections in HIV seropositive patients are more often chronic and sub-clinical, early screening of all HIV seropositive patients for Hepatitis B and C is mandatory. The study was undertaken in the Departments of Obstetrics and Gynecology, and Venereology and Voluntary Counseling and Testing Center in MGM Hospital, Warangal. A total of 100 HIV thrice reactive sera (screened by HIV tridot, CombAids and Immunocomb II) constituted the test samples in which 6 were from antenatal women, 37 from venereology unit and the remaining 57 from Voluntary Counseling and Testing Center. 100 HIV seronegative samples are selected as controls. Both the test and the control samples are subjected to HBsAg testing with a third generation latex test and HCV antibody detection with a third generation Enzyme Immunoassay. Among the test samples, the percentage seropositivity for HBs Ag and Hepatitis C antibodies is 14% and 17% respectively compared to 4% and 2% in the Control group. The incidence of Hepatitis B and C is comparatively high in the group with promiscuity (24.32% and 37.33%). The prevalence of hepatotropic viruses is more in the age group of 21-30 years, in rural population, in females and illiterates. This explains the necessity of spreading awareness of diseases among the rural population and preventive steps to control them.

OP-20

Hepatitis B Virus and Hepatitis C Virus Co-infections in HIV Positive Patients in India

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Present study is to determine the prevalence of Hepatitis B and C virus infections in HIV-positive patients at a tertiary care centre in New Delhi, India. A retrospective analysis was done from Jan 2003-Dec 2005 on 451 HIV positive patients who were tested for HBsAg and HCV antibodies soon after detection of HIV seropositivity. These patients either had tuberculosis, chronic diarrhea, or some other AIDS defining illness at presentation. Detection of both HBsAg and HCV antibodies was carried out by third generation enzyme-linked immunoassays. All samples were tested in duplicate. The control group was comprised of apparently healthy bone-marrow and renal transplant donors. Our study population comprised essentially of heterosexually transmitted HIV infections. The prevalence rate of HBsAg was 5.3% (24 in 451 patients) in HIV positive patients and 1.04% (6 in 573) in apparently healthy donors (significant at $p < 0.001$). Though prevalence of HCV infection was lower than HBV at the rate of 2.43% (11 in 451 patients), the prevalence was statistically significantly high ($p < 0.05$) in HIV positive patients as compared to 0.86% (5 in 576) in controls. Co-infection with both HBsAg and HCV and was not seen in any patient. The risk of HBV and HCV associated end-stage liver disease and liver-related mortality may be increased by HIV co-infection. Faster progression to liver cirrhosis has been seen both in HIV/HCV and HIV/HBV co-infected patients and a higher risk of hepatotoxicity of antiretroviral drugs has also been seen in subjects with underlying hepatitis (B or C) infection. HIV has been reported to accelerate HBV and HCV progression and replication. Conclusion: Our study has shown a significantly higher prevalence of hepatitis virus infections in HIV infected patients. Hence it becomes obviously necessary to screen all HIV positive patients for Hepatitis markers even though these viruses are not included among the list of opportunistic infections.

OP-21 Viral opportunistic infections in cervix of the HIV infected patients

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Patients infected with HIV-1 are at higher risk of acquiring different viral infections along with other pathogens. Viral burden may be an indicator for the persistent infections. This study was aimed to examine the prevalence of HPV, HSV-2 and EBV infections in cervical cells of women at high risk of HIV infection. HPV viral load for HIV infected and uninfected patients were also evaluated. Cervical specimens from 82 women (50 HIV infected and 32 uninfected) attending Virology Department of the School of Tropical Medicine (STM), Kolkata, were examined for HPV, HSV-2, and EBV by polymerase chain reaction (PCR) technique. Samples HPV positive by PCR using MY09/MY11 were retested by a low stringency PCR method to ascertain viral burden. HIV seropositive group was highly (not significant; $p=0.08$) associated with increased multiple viral infections. HPV-18 was the most prevalent (33.3%) genotype in HIV infected patients whereas HPV 18 and HPVs other than 16 & 18 (31.25%) were equally detected in HIV uninfected group. High HPV viral load (viral copy no. 101–1000 and above per cell) was frequently observed in HIV positive group (16.67% vs none). Greater number of HIV positive women had moderate and high viral copy number/cell compared with HIV negative women. Our results demonstrated an enhanced presence of the three viruses in HIV infected women. HIV along with the other viral opportunistic infections was associated with increased HPV viral burden in cervix. Further study especially on a large size cohort is required to understand clinical significance of such opportunistic viral infections in cervix of HIV infected women.