

PM-01

Non-tuberculous Mycobacteremia in HIV/AIDS Patient.

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Mycobacterial infections are commonly associated with HIV/AIDS and non-tuberculous mycobacteremia is found if CD4 counts fall below 200 cells/cumm. This study was aimed to detect non-tuberculous mycobacteremia in HIV/AIDS patients. A cross-sectional observational study was conducted between 3rd May 2005 and 26th January, 2006. A total of 77 HIV sero-positive patients (52 Male and 25 Female) visiting MGIMS, Sevagram were included in the study after informed written consent and prior permission from Ethical Committee of MGIMS. Complete blood and CD4 counts were done and blood, sputum, stool and other extra-pulmonary samples were cultured for isolating mycobacteria. BACTEC 13A medium was used for blood samples, while Lowenstein Jensen medium was used for other samples. Identification of the isolates was done using standard techniques. Majority (83%) of the patients were in the age group of 25-44 years. Forty two (42) were clinically diagnosed as TB patients. Mycobacteremia was detected in 4 cases (1 *M. tuberculosis* and 3 Non-tuberculous mycobacteria) with a positivity of 5.2 % (4/77). Mycobacteria were also isolated from sputum (4 isolates) and stool samples (1 isolate). In one patient non-tuberculous mycobacteria was isolated from both blood and stool sample.

PM-02

Tuberculosis in HIV Positive and other Immuno-compromised Patients.

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HIV/AIDS pandemic has led to a dramatic increase in the number of tuberculosis (TB) cases worldwide. The proportion of developing tuberculosis is very high (10 %) in HIV positive and other immunocompromised patients. The present study was aimed at evaluating the profile of tuberculosis in a varied population of immuno-compromised patients attending SGPGIMS, a tertiary care hospital in North India. We performed search of all microbiologically proven cases of tuberculosis whose specimens were collected from the in and out patient departments of SGPGIMS, during 2002-2005. All samples were processed in our mycobacteriology laboratory. The patients had clinically satisfied the criteria for immuno compromised condition. We identified a total of 39 cases (14 patients of HIV; 15 patients of renal disease; 5 patients of Diabetes Mellitus; and 5 with different malignancy) where specimen from different site was positive for *Mycobacterium* species by smear/ culture. 15 patients (13 HIV positive and 2 with malignancy) were presented with disseminated tuberculosis (DTB) as its initial presentation and none of the MDR strain was isolated from DTB. Disseminated tuberculosis predominates in AIDS cases in comparison to other immunocompromised conditions. MDR is not the problem in HIV positive patients. However to draw any conclusion a planned study with large number of samples is required.

PM-03 ***Mycobacterium tuberculosis* and Non-tuberculous mycobacteria in patients with newly HIV infection and Pulmonary Tuberculosis.**

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Present study was aimed to identify *Mycobacterium tuberculosis* and non-tuberculous mycobacteria in patients with newly HIV infection and pulmonary tuberculosis (TB). In five hundred and three patients with TB and HIV infections from two hospitals of Maputo City sputum samples and bronchial lavage were analyzed for culture, drug sensitivity testing and mycobacterium identification with Polymerase Restriction Analysis. Data includes demographic characteristics, clinical and radiographic alteration and CD4 lymphocyte count. For the study 447 HIV positive patients were checked for sputum microscopy and performed culture. Three hundred and twenty had pulmonary tuberculosis confirmed by positive AFB or culture. In 282 isolates, *M. tuberculosis* was identified in 98.9% while Mycobacteria Other Than TB (MOTT) in 1.1%; (two *M. avium* complex (MAC), and one *M. simiae*). MAC strains showed resistance to SRH and RSE, while *M. simiae* to all anti tuberculous drugs. Strains of *M. tuberculosis* presented sensitivity to anti tuberculous drugs in 82.3% isolates and resistance to any drug in 17.7%. The prevalence of multi-drug resistance TB (MDR-TB) in these strains was 5.7%, being more frequent in previously treated cases 11.4%, in relation to new cases of 3% ($p=0.01$). CD4 lower than two hundred cells/mm³ was observed in the majority of the patients, being lower than seventy cells/mm³ in the MOTT cases. MOTT was identified with low frequency. Our findings indicate that *M. tuberculosis* is still the major problem in HIV patients and MDR-TB a key burden.

PM-04 **Rapid Detection of Tuberculosis in Symptomatic and Non-symptomatic cases**

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The Increase of tuberculosis in almost all parts of the world has posed a global threat particularly with the spread of HIV infection. Diagnosis of the disease based on clinical grounds is not enough and must be supported by an efficient, fast and reliable laboratory diagnosis. We used LCX *Mycobacterium tuberculosis* Assay system which uses ligase chain reaction DNA amplification method (LCR) for the direct detection of *Mycobacterium tuberculosis* from respiratory specimens of suspected tuberculosis patients. Based on clinical, radiological and treatment criteria 152 patients were divided in to four groups. The results obtained by LCR method in different groups of patients were compared with the results obtained by culture and staining techniques. The results of LCR, culture and staining methods in highly suspected group of patients had sensitivity values of 97%, 89%, and 73% respectively and specificity values of 100% for the three tests. All smear positive cases were positive by LCR assay. Of the 18 discrepant results between culture and LCR assays, 14 LCR assay positive and culture negative specimens were from patients suffering from tuberculosis. The LCR results from specimens of four patients were false negative. LCR assay failed to detect atypical mycobacteria. LCR test has high acceptable sensitivity and specificity value, semi-automated and can be used in clinical laboratory in hospital. The result report can be given on the same day.

PM-05

Study of Spectrum of Tuberculosis in HIV / AIDS.

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The hallmark of HIV / AIDS is the emergence of Opportunistic Infections (OI) that activate disease progression and death. Tuberculosis (TB) is the most common OI in AIDS and HIV / TB co-infection is responsible for four million deaths annually. This study was aimed to find out the incidence of TB in HIV / AIDS, to study the clinical spectrum of TB in HIV / AIDS and to find the relationship between CD4 Count & TB. A total of 221 HIV / AIDS patients receiving treatment in GMCH from Jan 03 – Dec 05 were clinically screened for TB with appropriate microbiological and radiological tests. Out of the 221 patients we encountered 76 (33.3%) cases of TB. There were 29 (38.16%) cases of pulmonary TB (20 of them were sputum positive) and 47 cases (61.84%) of Extra Pulmonary TB. Seven patients had both pulmonary & extra pulmonary TB. The spectrum of Extra Pulmonary TB were Lymphadenopathy 22.37% (n= 17), Pleural Effusion 21.05%(n=16), Abdominal Koch 11.89%(n= 9), TBM 2.63%(n=2), Pericardial Effusion 1.32%(n=1), Empyema 1.32%(n=1), Pneumothorax 1.32(n=1). Mean CD 4 count of TB cases was 94 (range 4 to 371). From the study it is clear that Extra Pulmonary tuberculosis is the most common form of TB and there is an inverse relationship between CD4 count & occurrence of TB.

PM-06

Screening for HIV in a Hospital in Delhi.

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This study was designed to analyze the result of HIV testing in three different subject groups comprising voluntary blood donors, antenatal mothers and clients attending voluntary counseling & confidential testing centre for HIV/AIDS (VCCTC). All the subjects were screened for HIV infection. They were also screened for other infections such as Hepatitis B, Hepatitis C and syphilis which have the same route of transmission as HIV. The study revealed that in the voluntary blood donor group a total of 6566 subjects were tested, out of which 24 were found to be reactive for HIV which was 0.36% of the group. In the antenatal group of mothers, 1750 subjects were tested, out of which 7 were reactive for HIV which was 0.4% of the group. In the VCCTC group out of total 1206 clients enrolled for testing, 62 (5.14% in group) were reactive for HIV. Out of the total 93 number of HIV reactive subjects 10 (10.75%) were also reactive for either Hepatitis B or C or Syphilis. This study shows that besides the usual screening procedures followed in blood banks, the VCCTC are proving to be important testing centers. The general public should be made aware of these centers so that needy clients can come voluntarily to the nearest VCCTC. There is an important role of the counselors at VCCTC to guide and motivate the people for voluntary check up.

PM-07

Prevalence of HIV positivity among high-risk children and the spectrum of opportunistic infections among them

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This study was aimed to know the prevalence of HIV positive among high-risk children and to know their clinical presentation and the spectrum of opportunistic infections (OI) among them. Children belonging to high-risk group were subjected to screening for HIV-1/2 antibodies by one ELISA and two rapid tests. Children less than 18 months of age were excluded. HIV positive children were observed and tested for OI by standard laboratory methods. A total of 44 children were found HIV positive among a total of 295 children enrolled in the study. Forty one (41) were due to vertical transmission and 3 were infected by transfusion of infected blood. Fever was the commonest presenting complaint (40/44), followed by PEM (Protein energy malnutrition), skin infection, hepatosplenomegaly, lymphadenopathy, diarrhoea / dysentery, respiratory symptoms and CNS symptoms. A total of 39 were positive for HCMV-IgG, 12 for HCMV-IgM, 8 for HCV IgM and 15 for HbsAg. Scabies was the commonest skin infection. Three cases were positive for *Cryptococcus neoformans*. Co-infection with tuberculosis (TB) was seen in only 5 cases. The incidence of HIV positivity among high-risk children was approximately 15%. It may be more since children less than 18 months of age were excluded. Fever, hepato-splenomegaly, generalized lymphadenopathy and PEM were the commonest clinical presentation. HCV, HCMV, HBV & Scabies were common OI. Co-infection with TB and incidence of diarrhoea was less as compared to their adult counterpart. These children showed good clinical improvement with ART.

PM-08

Clinico- epidemiological profile of HIV infection over a period of six years

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AIDS is a pandemic with a global prevalence and HIV infection has reached an important threshold in India. The geographical distribution of the HIV epidemic in India varies and is based on the prevalence of HIV in low and high-risk groups. The states of North-Western Region including Union Territory, Chandigarh come under low prevalence area. Clinical course and pattern of opportunistic infections in HIV positive patients is highly variable. This study was a retrospective analysis of data from September 1999 to September 2005 to investigate the distribution and review the presentation of HIV infected patients over a period of six years. The total number of HIV positive patients during the study period came out to be 223, and out of these 175 were males and 48 were females. The most common age group infected with HIV was 30-39 years. Heterosexual transmission was the main route of infection (218/223). Tuberculosis (30%) was the most common opportunistic infection followed by *Candida* (25%), *Herpes* (4%), *Cryptococcus* (3%), and *Cryptosporidium* (2%). *Toxoplasma* and *Pneumocystis* were found in one case each. Amongst the AIDS indicator conditions the common clinical presentations were fever (51%), weight loss (43%), asthenia (41%), cough (25%), Diarrhoea (17%) and primary granular lymphadenopathy (16%). The maximum number of cases came from the State of Punjab followed by Haryana and Chandigarh. The present report will highlight the clinical presentation and epidemiological data related to HIV infection from this part of the country.

PM-09

Prevalence of HIV/AIDS Cases Admitted To University Malaya Medical Centre.

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This retrospective study aims to determine the prevalence of HIV/AIDS cases admitted to University Malaya Medical Centre. Over a period of five years (2000-2004), a total of 529 HIV/AIDS cases were analyzed. The majority of cases were Chinese (59%), followed by the Malaysians (19%), Indians (14%) and unknown ethnic origin (8%). The male: female ratio was 4:1. The highest number of cases was between 30-39 years of age (43%). Most of HIV/AIDS patients were non-executive workers (45%), followed by those unemployed (21%). Both married men (48%) and women (72%) contributed the highest percentage among infected patients according to marital status. Majority of these patients were Malaysians (91%) while the rest were immigrants (9%). The most common risk factor was sexual activity (66%) followed by intravenous drug users (18%). The two most common AIDS related illnesses were pulmonary tuberculosis (21%) and *Pneumocystis carinii* pneumonia (PCP) (16%). Among these 36% patients had CD4+ count < 200 cells/mm³ and 6% patients had CD4+ count > 500 cells/mm³. The most common cause of death among the AIDS patients was PCP (24%). This study showed that most HIV/AIDS cases occurred among middle aged Chinese males and the most common risk factors were sexual activity and intravenous drug users. The study underscores the need of risk reduction interventions, including education on abstinence and safer sex. Drug users must be educated about the risks of needle sharing. Free distribution of condoms and syringes was suggested in order to control HIV/AIDS infections.

PM-10

Clinical Profile of HIV/AIDS in Assam

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In North East India, Assam is considered as one of the HIV low prevalence zones. But HIV sero prevalence is increasing day by day. The objective of this study was to find out the clinical profile of the HIV positive patients with which they seek medical attention and frequency of various opportunistic infections in a tertiary referral hospital of Assam. Seventy four HIV positive adults coming for the treatment of an opportunistic infection or HIV related disorder between May 2002 and December 2005 were included in the study. All the clinical and demographic details were taken. Fever (55.4%), cough (54.05%) and weight loss (54.05%) were the commonest symptoms. Pulmonary tuberculosis was the commonest opportunistic infection (31.16%), followed by diarrhoea (18.18%), oropharyngeal candidiasis (16.88%) and pruritic dermatitis (14.28%). Twenty three (31.09%) cases were asymptomatic. Six patients died during the period of study. This study showed that heterosexual route was the commonest mode of transmission for HIV. Chest symptoms (fever, cough) and weight loss were the commonest mode of clinical presentation and pulmonary tuberculosis was the commonest opportunistic infection. Chest symptoms of prolonged duration and pulmonary tuberculosis may be included in the surveillance criteria.

PM-11

Natural History of HIV and AIDS adults

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Human Immunodeficiency Virus (HIV) infection and AIDS is emerging as most serious health problem globally. This study was done in Assam where there is gradual increase in number of HIV and AIDS cases causing increase in morbidity and mortality. A total number of 985 cases were screened for HIV after proper counseling. Confirmation of HIV positivity was done according to the NACO guidelines. The different type of risk behaviors and their duration in HIV positive cases were evaluated. The types of clinical presentation of these cases were studied. In this study HIV was found positive in 74 number of cases. Sexual route was the most common route of infection (91.89%) in HIV positive cases. 51 number of cases came with development of AIDS. Time taken for cases to become symptomatic was less than 5 years in sexual route (62.74%). The most common and early symptoms were chest symptoms (55.4%) and tuberculosis was the commonest opportunistic infection (32.43%). Present study shows that most of the HIV positive cases were found belonging to service and business community who use to change their places and sexual partners due to their profession. The time taken from sero-conversion to the development of AIDS is shorter in sexual transmission and this may be due to the frequent exposure to various pathogens of sexually transmitted diseases, which accelerate the disease progression, due to their high risk behavior.

PM-12

HIV Seroprevalence and Opportunistic Infections in a Hospital Based General Population and Blood Bank Donors in Hyderabad

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Purpose of the study was to estimate the seroprevalence of HIV in hospital based general population and Blood bank donors to diagnose opportunistic infections in HIV positive patients of general population. A total number of 5855 serum samples collected from out patients attending hospital and Blood bank donors were analyzed by ELISA & HIV TRI-DOT Rapid method. Out of these 60 Reactive samples were confirmed by Western Blot method. Different samples of 41 AIDS patients (Sputum, Urine, Blood, Throat swab, Foley's catheter tip, Tracheal aspiration, Pus, Pleural fluid, Stool and FNAC Lymph node) were investigated by the microbiological techniques to find out the opportunistic infections. The results showed that the seroprevalence in males and females from general population were 4.3% and 2%, and from Blood bank donors were 0.14% and 0%. In general population there was a significant difference between the seroprevalence of males (76.56%) and females (23.5%). The highest seroprevalence was found in males (8.5%) and females (5.2%). of the age group 21-30 years. Out of 60 cases found reactive by Western blot, 43 were HIV-I seropositive, 2 were HIV-I indeterminate, 2 were HIV-II indicated, and 5 were mixed (HIV I & II). Microscopy revealed gram negative bacilli in 10/26 (38.4%), capsulated gram positive diplococci in 1/26 (3.84%), *Candida* 5/12 (41.6%), AFB 3/30 (10%), *Cryptococcus neoformans* 1/11 (9.1%) and *Cryptosporidium* -1. Study showed that 80% of the HIV reactive cases occurred in the sexually active and economically productive 15 to 44 age group and 76.5% were men. Predominant Opportunistic infections were *Candida* species followed by *Mycobacterial* infection.

PM-13

Contribution of Quorum Sensing to virulence of *Pseudomonas aeruginosa* in mouse model of experimental pyelonephritis

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Pseudomonas aeruginosa is an epitome of opportunistic pathogen. The bacterium rarely infects uncompromised tissues but in immunocompromised host such as in AIDS there is hardly any tissue that it cannot infect. Quorum sensing has been proposed to play most important role in the pathogenesis of respiratory tract and burn wound infections caused by *Pseudomonas aeruginosa*. This pathogen has been reported to monitor its cell density as well as expression of virulence determinants by quorum sensing signal mechanisms operative through auto inducers. However no reports are available in literature where role of these signals have been studied in relation to *P. aeruginosa* induced pyelonephritis. The present investigation was planned to study the role of quorum sensing in virulence of *P. aeruginosa* in relation to pyelonephritis. In a experimental mouse model pyelonephritis was established employing standard parent strain (PAO1) possessing functional quorum sensing systems (both *las* and *rhl*) and its isogenic mutant strains, single mutant (deficient in production of *lasI*) and double mutant (deficient in production of both *lasR* and *rhlR*). In addition, 50 uro-isolates were screened for the production of quorum sensing signals both qualitatively and quantitatively. For further studies, quorum sensing positive and quorum sensing negative strains (2) as well as standard strain and its isogenic mutant strains were checked for their virulence in an acute ascending pyelonephritis mouse model. In the results analysis it was observed that quorum deficient strains were significantly less virulent as compared to quorum sensing producer strains during the course of infection assessed in terms of renal bacterial load, neutrophil recruitment, malonaldehyde production and alteration in renal pathology. The results of the present study bring out that quorum sensing plays most significant role in development of pyelonephritis caused by *P. aeruginosa*.

PM-14

Awareness and Attitudes of Laboratory Personnel Regarding HIV and AIDS

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The study was aimed to profile the knowledge and attitudes of laboratory personnel regarding HIV and AIDS. Personnel working in clinical laboratories were asked to answer a questionnaire which included issues related to etiology, transmission, government policies/programmes and attitudes pertaining to HIV/AIDS. The results showed that the majority of participants had adequate knowledge regarding etiology, transmission and laboratory diagnosis of HIV/AIDS. They were aware about the standard procedures to handle potentially infected materials. A significant proportion of them had compassionate attitude towards people suffering from AIDS. However lack of awareness about government initiatives and national policies was noticed. Laboratory personnel have a substantial role in combating the global pandemic of HIV/AIDS. This study indicates the need for awareness campaigns among laboratory personnel especially with regards to government initiatives and national policies. Information thus acquired would enhance proper utilization of the resources and successful implementation of the control programmes.

PM-15

Hypomagnesaemia- A novel risk factor for Type-2 Diabetes Mellitus

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Magnesium has a fundamental role as a cofactor in more than 320 enzymatic reactions involving energy metabolism and nucleic acid synthesis. Magnesium can retard or even prevent the induction of insulin resistance due to its role in glucose transporting mechanisms. The present study was planned to determine serum magnesium levels in patients of type 2 Diabetes Mellitus. A total of fifty clinically diagnosed patients of type 2 Diabetes Mellitus in the age range of 30-70 years were selected. Fasting blood glucose, glycosylated hemoglobin and Serum Magnesium levels were estimated. The results obtained were compared with equal number of age and sex matched normal healthy control subjects from the same population. Analysis of the results showed that serum magnesium levels in the patients were significantly lower ($p < 0.001$) as compared to control subjects. An inverse relationship of serum magnesium levels was observed with advancing age, severity and increased duration of the disease. The patients with chronic diabetic complications were having lower serum magnesium levels ($p < 0.001$). A negative correlation was also observed between serum magnesium levels and the glycosylated hemoglobin percentage, depicting poor glycemic control in subjects with lower serum magnesium levels. Study reveals Hypomagnesemia as a common finding in patients of type 2 Diabetes Mellitus. Poor glycemic control and association of chronic diabetic complications with hypomagnesemia strongly suggest that magnesium estimation should be on the screening panel for risk detection of type 2 Diabetes Mellitus.

PM-16

Determination of oxidative stress in chronic smokers by simple biochemical investigations.

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Smoking has been implicated as a major risk factor in chronic obstructive pulmonary diseases, in chemical carcinogenesis and in atherosclerotic arterial diseases. The objective of the present study was to determine the oxidative status in smokers by simple biochemical investigations. The present study included 50 apparently healthy male smokers in the age range of 20-75 years who were smoking from the last 5-20 years. Serum xanthine oxidase and serum uric acid levels were estimated. The results were compared with equal number of age matched normal healthy control subjects. Xanthine oxidase, an oxidant enzyme is known to induce free radical generations. Result analysis showed that higher serum xanthine oxidase activity levels were found amongst smokers, implying the oxidative imbalance in such individuals. A rise in serum xanthine oxidase, signifying oxidative stress was also observed with advancing age, increased duration of smoking and with increased number of cigarettes smoked per day. No parallel rise of serum uric acid was observed with the increased xanthine oxidase activity, instead insignificant rise in serum uric acid was observed. It might be due to its consumption as an antioxidant. The study concludes that the underlying mechanism for adverse biological effects associated with smoking could be oxidative damage. Simple biochemical investigations like serum xanthine oxidase and uric acid could be undertaken to predict the oxidative stress amongst smokers.

PM-17

Polyradiculopathy in an Indian AIDS patient

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Polyradiculopathy is a rare but potentially devastating syndrome. In AIDS patients, the syndrome is most commonly caused by cytomegalovirus, but the diagnosis is challenging, given a broad differential that includes other members of the herpesviridae family, tuberculosis, syphilis, and lymphoma. This is the first such report from India. Case report: The patient was an HIV positive man with low CD4 count presenting with a progressive, ascending flaccid paraplegia and par aesthesia that ultimately involved bladder and bowel retention. At a private hospital he was initiated on antiretroviral therapy and on an inappropriate oral regimen of gancyclovir, to which he did not respond. On admission to our service, MRI showed confluent arachnoiditis of the cauda equina; laboratory findings were inconclusive but supportive of cytomegalovirus infection. He responded well to intravenous gancyclovir, anti-tuberculosis therapy, and a modified antiretroviral regimen, and was discharged a month after admission. Based on clinical and laboratory features, cytomegalovirus was the presumed etiological agent. Discussion: This is the first HIV-associated case of progressive polyradiculopathy to be described on the Indian subcontinent. The diagnostic work-up of polyradiculopathy in AIDS patients is challenging and is made more difficult in resource-limited settings such as India where inadequate laboratory facilities and previous inappropriate treatment are common. Despite the seriousness of this condition, with judicious use of broad-spectrum empiric treatment consisting of anti-tuberculosis (when appropriate), anti-retroviral and intravenous anti-herpesviridae therapy, and positive outcomes may be achieved.

PM-18

Partnership approach with religious scholars to prevent HIV/AIDS

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There is a strong hold of religious leaders on socio cultural pattern of community (attitude with extremism). Prevailing concepts to talk about sex considered as act of vulgarity and immoral activity (SIN). Word HIV/AIDS conceived as symbol of sexual delinquencies. To talk about prevention from sexually transmitted infections (STI's), HIV/AIDS and the promotion of condom use is considered as a matter of social evil. A pilot study of six month was designed with the support of religious scholars in Balochistan, the lowest literate and backward province of Pakistan. Twenty Mullahs-Religious scholars/ clergymen were included in the study group. Base line knowledge, attitude, acceptability of the concept were assessed. Two meetings per month were held in the form of Focus group discussions, trainings & workshops. Result showed that after six months knowledge regarding HIV/AIDS, STI's was increased by 80%, acceptability for condoms increased by 50%, prejudices and negative attitude to talk about sex openly was approved by 5% of target group. The study highlight the need of Intervention by the participation of religious scholars to bring change in the religious institutions (Madrassas) and at large promoting health education in the community for the prevention of HIV/AIDS & STIs and to increase usage of condom is recommended.

PM-19

A herbal therapy to control AIDS virus

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In spite of explosive current developments in medical research, the development of newer vaccines, novel drugs, antibodies and antisense RNA technology etc hardly control the most dreadful disease, AIDS, caused by HIV-1 and HIV-2. Most of the modern developmental methods failed to control HIV. The use of azidithymidine (AZT) and many protease inhibitors failed to deliver goods. This is because of the fastest multiplying nature of HIV coupled with high frequency of mutation in the absence of any proof reading mechanism. There is also a tremendous antigenic variation which counters all human efforts to cripple down the particles. Many of the efforts to mutate genes such as *nef* and *rev*, chelation of zinc finger protein and development of new vaccines are still in the pipeline. Hence, a study has been initiated through siddha medicine employing certain herbal formulations in an effort to curb the viral load in AIDS patients. The study zone is restricted to Namakkal District employing sizable number of patients. The blood samples were periodically collected to monitor HIV load also monitored by P24 antigen. A decrease in P24 antigen indicated the effectiveness of the therapy employed to control the HIV infection. In addition, a rise in CD4 population, which the HIV mainly destroys, being the target receptor, indicated the effectiveness of the herbal therapy. The effects of the following plant formulations on the aforesaid parameters were studied: *Piper longum*, *Withania somnifera*, *Curcuma longa*, *Phyllanthus niruri*, *Ocimum sanctum* and *Phyllanthus emblica*. The C2-V4 region of HIV-1 *env* gene from different patients has also been sequenced using JH primer. A phylogenetic tree (Dendrogram) subtyping HIV will be presented.

PM-20

Starvation stress accelerates oxidant-mediated liver damage following murine salmonellosis.

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Among the Gram-negative bacteria, *Salmonella* species can cause severe systemic infections, including typhoid, in humans. The situation gets complicated due to an increase in susceptibility to infections by several folds in AIDS patients in addition to the aging process and the malnourished/nutritionally deficient status. Moreover, many pathogens including *Salmonella* have been reported to increase their virulence under different host stresses including starvation, which may result into weakened immune response. Since starvation is quite prevalent in many parts of the world, this study becomes all the more relevant. Therefore, an attempt was made to evaluate the extent and the possible underlying mechanism of *Salmonella* induced hepatic damage under starvation stress. Assessment of bacterial load, liver-derived enzymes, histopathological changes, lipid per oxidation as well as estimation of reduced glutathione, super oxide dismutase and catalase along with generation of TNF- α in the livers of control, fed-infected, starved and starved-infected mice was done. Early bacterial recovery, increased levels of liver enzymes, marked histopathological changes increased generation of ROS along increased level of TNF- α were observed in the starved infected mice. The above mentioned observations clearly indicate that infection due to *Salmonella typhimurium* causes liver damage probably due to increased oxidative stress and this precipitates further when the animals are starved prior to insult due to the bacteria.

PM-21 Knowledge and attitudes of medical students towards HIV/AIDS

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This study was designed to assess the awareness, and attitudes, of medical students towards human immunodeficiency virus and acquired immunodeficiency syndrome (HIV/AIDS). A cross-sectional study among 145 fresh entrants and 167 second year medical students of Melaka Manipal Medical College, Manipal was conducted using a structured questionnaire. The variables accessed were related to their knowledge of HIV/AIDS regarding etiology, modes of transmission, preventive strategies and their attitudes towards the HIV infected. Results showed that a large majority of medical students surveyed believed that HIV/AIDS is a major health crisis. Misconceptions and lack of knowledge regarding transmission and laboratory diagnosis of HIV/AIDS were reported. However the number of medical students who observed positive attitudes towards care for HIV infected individuals was very high. The study highlighted that information is the first step in prevention of HIV/AIDS. The results of this survey show that medical students correctly perceive the risk posed by HIV/AIDS. However there is a need for greater sexual health education for the future doctors. Inclusion of programmes/learning experiences in the medical curriculum, designed to enhance the awareness and right attitudes towards HIV/AIDS seems to be essential. Information and health education campaigns for medical students on HIV/AIDS should be incorporated from the commencement of the medical programme.

PM-22 Comprehensive HIV/AIDS prevention: Focus on Youth under Threat

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Prevention services are the mainstay of the response to Acquired Immune Deficiency Syndrome (AIDS), but are seldom implemented at a scale that would turn the tide of the epidemic. Effective, inexpensive and relatively simple Human Immunodeficiency Virus (HIV) prevention interventions do exist, but the pace of the epidemic is clearly outstripping most country efforts towards effective prevention programming. Globally, less than one fifth of people who need it have any access to prevention services. A variety of factors put young people at the centre of HIV vulnerability. These include lack of HIV information, education and services. Mass media can be used as a weapon against HIV and AIDS, and could be most effective in creating awareness about the disease. The importance of the ABC (Abstinence, Be faithful to one partner and Condom use) prevention approach should be stressed so as to promote sexual safety amongst the youth. In Pakistan the National AIDS Control Programme plays an important role in creating general public awareness about AIDS. The goals of the national strategic framework are: to ensure a multisectoral response to HIV/AIDS; to reduce the risk of infections among high risk groups; to create awareness; to reduce the transmission of sexually transmitted disease; to reduce vulnerability of young people to AIDS; and to improve the quality of life of people living with HIV/AIDS through the provision of care and support and ensuring a secure environment for all people infected and/or affected by HIV/AIDS.

Seroprevalence of Specific IgM Antibodies to TORCH agents in Children

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Toxoplasma gondii (Tox), *Rubella virus* (RV), *Cytomegalovirus* (CMV) and Herpes Simplex Virus (HSV) types 1 and 2 (TORCH) are the most common agents causing prenatal and intrauterine infections causing damage to the fetus leading to congenital abnormalities during pregnancy with considerable morbidity and mortality. Present study was aimed to find out the Seroprevalence rate of specific IgM antibodies to TORCH agents in children using ELISA test. A total of 145 children admitted to the KSCH and Smt. S.K Hospitals, New Delhi, in the age group of 3 days to 7 year both males and females with clinical presentations of hepatosplenomegaly, hepatitis, jaundice, microcephaly, congenital malformations, seizures, mental retardation, neonatal sepsis, skin rashes, intrauterine growth retardation (IUGR), and delayed milestones were included in the study. Serum samples were collected from all the 145 children and from their mothers (if possible) who had bad obstetric history (spontaneous abortion, IUGR, still birth) during Jan 2003 – Sept-2003. The presence of specific IgM antibodies to the TORCH agents was determined by ELISA test (Novum). Results showed that out of 145 children studied 112 (77.4%) were found to be positive for the presence of specific IgM antibodies to one or more agents of TORCH. The overall percentage of positively was found to be maximum (55.2%) for CMV followed by RV (29.0%), HSV (26.3%) and 11.7% for Tox. The distribution of specific IgM antibodies to TORCH agents showed that 11 children were positive for CMV & HSV, 10 for (RV, CMV & HSV), 5 for (RV & CMV), 3 for (Tox & CMV), 2 each (Tox, RV & CMV) & RV & HSV, 1 each for TORCH and Tox & RV respectively and their parents were also found to be positive. Conclusion: Although TORCH agents have been found to cause infections in antenatal women leading to BOH and congenital infections the prevalence of TORCH infections in children is also high in the pediatric age group. The study highlights the importance of screening children for seroprevalence of TORCH group of agents and to rule out prenatal and congenital infections.

Leptospirosis in HIV positive patients

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Aim and objective of this study was, whether local prevalent infection has any role in the morbidity and mortality of HIV patients. Opportunistic infections are well established among HIV positive cases. Often common infections are overlooked. We have seen two HIV patients suffering from Leptospirosis. One of them was a male of 35 years of age, admitted in our institute hospital with the complaint of high fever in November 2005. A 30 years female was also admitted with high fever. Hereby we are presenting first case: Patient was investigated for the tuberculosis, malaria, Cryptococcus, *Cryptosporidium* and other infections. All were negative. Blood culture showed no aerobic bacterial growth. Haemogram showed anemia (7.4 gm Hb %), High ESR (83mm 1st hour), CSF showed no significant abnormalities. Dark field microscopy of blood was positive for the Leptospirosis; *Leptospira* IgM ELISA gave low OD value. Low OD value may be due to immuno-depression. Microscopic agglutination test (MAT) was positive for *Leptospira australis* in the titer of 1:100. Patient was treated with antibiotic and recovered well and was discharged after recovering from the fever. Conclusion: In HIV patients one should investigate for the opportunistic infections as well as prevalent infection in those localities.

Prevalence of bacterial Urinary Tract Infections in Human Immunodeficiency Virus (HIV) infection

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This study was designed to document the prevalence of HIV associated urinary tract infections in Barshi tahasil. Such studies have not been worked out before in this region. A total of 123 HIV reactive samples and 40 HIV non-reactive patients were included for the study. In both mid stream samples were collected and processed to examine for bacterial opportunistic pathogens. The antibiotic sensitivity of selected urinary isolates in HIV reactive as well as HIV non-reactive patients was studied by using disc diffusion technique and Kirby Bauer method. Urine samples from 75.46% of HIV reactive and 24.54 % of HIV non-reactive patients were culture positive. In all there were seventy-four urinary isolates from the HIV reactive cases (36.48 %) were *E. coli*, (31.10 %) were *Pseudomonas*, and (24%) were *Klebsiella*. These urinary isolates were found in different age groups of both male and female but more number of isolates was found in female as compared to male. In addition, *E. coli* and *Klebsiella* were predominant in female and *Pseudomonas* was found predominant in male. The antibiogram of selected urinary isolates in HIV reactive as well as HIV non-reactive patients indicates that urinary isolates in HIV reactive patients were more drug resistant than HIV non-reactive patients. The isolation of urinary opportunistic pathogens among the HIV reactive patients was found to be significantly higher than in HIV non-reactive patients. Also the antibiogram of urinary opportunistic pathogens in HIV reactive patients is significant finding indicating severity of the infection in this group.

Nailing on the head of HIV infected patients- an unusual occurrence - report of two cases

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Two intravenous drug users who had been at drug de-addiction centre were presented with Central Nervous System manifestations. Investigations revealed them to be retro-reactive and a foreign body (metallic nail) in the brain. Surgery was performed and patients were stabilized. This report attempts to highlight the unusual phenomena of nailing in the head and the psychological and legal inflections in the management of HIV infected patients. Case No. 1: A 40 years male, intravenous drug user who had been undergoing de-addiction at the centre for 10 years presented with injury on right temporal region inflicted with a nail. On examination patient was found to be normal in all respects except for the ptosis of the right eye. Local examination shows a nail strucked on the right temporal region just above zygoma. He was retro-reactive. X-ray of skull revealed the nail in the brain extending to the left. Surgical operation was performed and patient was stabilized. Case No. 2: Mr. Y 26 years male intravenous drug user attended with fever (3 weeks), headache (10 days), convulsion and vomiting (1 week) and altered sensorium for 3 days. Before attending hospital he had been in a DE-addiction centre. Except for the drowsiness and minimal meningeal signs other clinical parameters were normal. Local examination showed small sinus on left frontal area just anterior to the coronal suture and adjacent to the sagittal suture. He was retro-reactive. X-ray of skull and CT-Scan revealed a foreign body with an abscess at the tip of the nail. By conservative management and surgical operation stabilized the patient. Discussion: Neurological problems that occur in HIV infected individual may be either primary to the pathogenic process of HIV itself or secondary to opportunistic infection or neoplasm. Depression is one of the most common psychiatric disorders found among HIV infected individuals. Injury inflicted open the brain is a strange and unusual occurrence the fact that both have been in a de-addiction centre prior to hospitalization opens-up an issue of legal and psychological aspects of management of HIV positive patients. Assessing the suicidal risks in the HIV infected population is important. Sharp injury may be missed for the skull wound is small and apparently insignificant and one may fail to associate an innocent looking injury in an alert patient. Indeed HIV continues to create problem for human mankind in different forms.

PM-27

Prevalence of Hepatitis B and Hepatitis C virus

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HBV and HCV are endemic in India and have etiological role in acute Hepatitis and 50-70% of which end up with chronic liver disease. As HIV also shares common transmission route, co-infection with Hepatitis viruses appear to influence the natural history of the disease in these patients. A total of 100 serum samples from clinically diagnosed cases of chronic liver disease and also having raised serum bilirubin and aminotransferase levels were tested for hepatitis B surface antigen and antibodies against HCV and HIV over a period of one year. Sera of 25 healthy age matched healthcare workers without any evidence of disease were also tested. Results showed that 28% of the samples were positive for hepatitis B surface antigen. 13% percent were seropositive for HCV and 3% for HIV. 3% had concomitant infection with HBV and HCV and one percent showed co -infection of HIV and HBV. In hepatitis B surface antigen positive cases, 39.3% had various risk factors whereas in HCV cases, 92.3% had risk factors. In HIV seropositive cases, all the three patients had risk factors. Mean bilirubin level in Hepatitis B cases was almost one and half times the level in hepatitis C cases. Mean level of enzymes both ALT and AST in hepatitis B cases were almost double the level of hepatitis C cases. In control group only one case was positive for hepatitis B surface antigen. HBV is still one of the major causes of chronic liver disease followed by HCV in India. But there is a danger of the devastating trio infecting a large proportion of cases. So, great stress must be laid on proper preventive measures.

PM-28

Development of an immuno-filtration kit for detection of antibodies to HIV-1 and HIV-2 in human blood samples.

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Efficient and early diagnosis of HIV infectivity in a population is one of the best ways to control the spread of HIV among blood transfusion recipients and the health care professionals. We report here the development of a rapid kit for detection of HIV antibodies in human samples. The kit is based on the technique of immuno-filtration and has separate dots for positive control (human IgG), the immuno-dominant stretches of gp120 and gp41 envelope recombinant proteins of HIV-1 and a synthetic peptide of gp36 envelope protein of HIV-2. This format makes it possible to differentiate between the types of HIV infection. The gene encoding the junction region of gp120 and gp41 was cloned from HIV-1 proviral genomic DNA in an *E. coli* expression vector placed under the control of T7 promoter and *lac* operator. The protein was purified from the inclusion bodies. The synthetic peptide of gp36 envelope protein of HIV-2 was designed on the basis of published literature. The recombinant protein and the peptide were used for coating the supported nitrocellulose membranes along with positive control spot. The test devices were evaluated using a large number of normal and HIV positive sera. The concept, design and results of developmental work of the kit will be presented.

PM-29 Parasitic infestations among AIDS cases with chronic diarrhoea

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The present study was aimed to find out the prevalence and pattern of parasitic infestations among AIDS with chronic diarrhoea (> 1 month diarrhoea). A prospective of analytical study was under taken after institutional ethical clearance to study stool samples of 62 AIDS patients (M=42,F=20,age range 19 to 45 years). The stool samples were collected in normal saline and processed using standard parasitological techniques. A group of 38 HIV negative patients were included as controls. The data were analyzed statistically. Results showed, parasitic infestations among AIDS cases were *E. histolytica* in 22.6%, *Cryptosporidium* in 33.8%, *Giardia* in 1.6%, *Ascariasis* in 6.45%, *H. nana* in 1.6 %. Protozoan infestations were significantly more among AIDS cases whereas Helminthiasis more among HIV negative cases. Conclusion: Early diagnosis, prompt treatment, protected water supply and food hygiene will reduce the occurrence of parasitic infestations. AIDS patients need health education.

PT-30 Intestinal protozoan parasitic infection in a rural population

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Changes in the immunological response of the gut mucosa in HIV seropositives allow infection and persistence of opportunistic protozoans. There are significant geographic variations in the prevalence of individual enteric protozoan infection in HIV patients. It is essential to identify the causative parasite not only from the epidemiological point of view but it also helps in the initiation of correct treatment. Keeping this in mind the present study has been taken in this rural part of Central India. In duration from September2004 to Dec 2005 a total of 150 subjects (OPD and Ward). Subjects were included in the study which included 21HIV seropositives cases with diarrhoea and 54 seropositives without diarrhoea. 20 seronegatives with diarrhoea and 55 seronegatives without diarrhoea were taken as control. All the stool samples received in the laboratory were processed immediately. They were examined by wet mount (Saline, Lugol's iodine, LPCB) and staining (Modified acid fast and modified trichrome stain for Microsporidia). Analysis of the result showed that parasitic infection was more common in HIV seropositives (37.3%) as compared to seronegatives (12%) and this difference was statistically significant ($p=0.000173$). Evidence of parasitic infection was higher in HIV seropositives patients both with (100%) and without diarrhoea (12.9%), as compared to HIV seronegatives with 45% & without diarrhoea 0%. Multiple parasitic infections were seen in only HIV seropositives with diarrhoea (8%). Only *E. histolytica* was seen in HIV seronegatives, whereas in seropositives *Cryptosporidium*, *Isospora belli*, *Cyclospora*, *G. lamblia* and *E. histolytica* were demonstrated. Study found high prevalence of protozoal infection in HIV seropositive especially those with diarrhoea were found in this area.

PT-31

Opportunistic Intestinal parasitic infection in HIV sero-positive patients

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The study was designed to know the prevalence of opportunistic intestinal parasitic infection in HIV seropositive patients. The study was undertaken during January 2002 to December 2002 in the department of Microbiology, M.P. Shah Medical College, Jamnagar. One hundred seropositive patients from various specialties were included. Fecal samples were collected from HIV seropositive patients with and without diarrhoea. Samples were subjected to Formal Ether concentration technique. Specimens were examined as wet saline and iodine mounts. A modified Ziehl Neelson technique was used for staining of coccidian parasites. Analysis of results showed, Among 100 patients studied 25 (25%) were found to harbor protozoan parasites, of which 24.38% were detected in patients with diarrhoea while 2.38% in patients without diarrhoea. *Isospora belli* was the most common (10%) followed by *Cryptosporidium parvum* (9%). *Microsporidium*, *Cyclospora* were detected in 3% of patients. Detection rate of *Isospora* was 17.24% in patients with diarrhoea whereas *Cryptosporidium* was 13.79% in patients with diarrhoea and 2.38% in patients without diarrhoea. This study indicates the prevalence of opportunistic intestinal parasitic infection in HIV patients as 25% and 41.37% in patients with diarrhoea comparable with other studies. Detection rate of protozoan parasites in asymptomatic HIV patient was 2.38% in present study, lower as compared to other studies. This study highlights importance of testing for opportunistic parasites in HIV seropositive patients and necessity of increasing awareness of these parasites. Awareness of their existence is important, for early detection and proper treatment. Early diagnosis will not only help accurate treatment but also will help in institution of preventive measures.

PT-32

Spectrum of Intestinal Opportunistic Parasitic Infections in HIV patients with Diarrhea in a rural cohort population in Manipal- Karnataka

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The pandemic of HIV and AIDS is rapidly spreading globally with the second largest epidemic in the South Asia. The present study documents the prevalence of enteric parasites in HIV positive patients with diarrhoea in Manipal. A total of 750 HIV positive patients were included. They comprised of 650 HIV patients who presented with diarrhea and 100 HIV patients without diarrhea. Stool samples were examined for Helminthes and Protozoa by direct wet mount and concentrated by formal ether sedimentation method. Direct smear and smears made from deposits of sedimentation were stained with modified trichrome stain for microsporidial spores, modified Kinyoun acidfast stain and safranin methylene blue stain for *Cryptosporium*, *Isospora belli* and *Cyclospora cayetaenensis* spores. A total of 650 stool samples were examined of which intestinal parasites were detected in 101(15.53%) of the HIV patients with diarrhea and in 10 (10%) of the control group of HIV patients without diarrhea. The highest detection was *Cryptosporidium* oocyst 68 (10.46%) followed by *Isospora belli* and *Strongyloides stercoralis* larvae 9 each (1.38%). Only 3 patients had a combination of *Cryptosporidium* and *Ascaris lumbricoides* infections. The other parasites detected were *Giardia* 7(1.07%); *Entamoeba histolytica* cysts 5(0.77%) and Hookworm eggs 3 (0.46%). Our data stress the importance of Opportunistic protozoa in HIV infected patients as compared with the control group and so routine examination of stool samples for parasites could significantly benefit the HIV infected and un-infected by contributing to reduce morbidity and improvement of quality of life.

PT-33

Cyclosporiasis in HIV infected individuals: Two case reports

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Once thought to be a rare entity, *Cyclospora cayetanensis* is now an established cause of chronic diarrhea in immunosuppressed individuals. Present paper reports two cases of cyclosporiasis in HIV infected individuals seeking medical attention in K.E.M. Hospital, Parel, Mumbai.

PT-34

Carriage of *Cryptosporidium parvum* in HIV Seropositive Patients in and around Amritsar

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Cryptosporidium parvum is one of the commonest causes of diarrhoea in patients of AIDS. However, studies have shown that it is also carried asymptotically in HIV seropositive patients. This could later result in clinical illness once their immunity deteriorates. The present study was undertaken to know the incidence of asymptomatic carriage of *Cryptosporidium parvum* in HIV seropositive patients and to compare 3 staining techniques namely Hot Modified Acid Fast staining, Modified Kinyoun Acid Fast staining (cold staining) and Safranin Methylene Blue used for its detection. The study was carried on 65 stool samples collected from asymptomatic HIV seropositive patients tested by ELISA/ RAPID/ SIMPLE tests in VCTC attached to Microbiology department, Govt. Medical College, Amritsar. The control group included 15 asymptomatic HIV seronegative patients. All the stool samples were subjected to formalin ether concentration technique and wet preparation and stained smears were examined by above three methods. The analysis of result showed eleven (16.92%) samples were positive for parasites, out of which 8 (12.31%) were *Cryptosporidium parvum*, 2 (3.07%) were *Giardia lamblia* and 1 (1.54%) was *Entamoeba coli*. No *Cryptosporidium parvum* oocysts were detected in the control group. Out of the three staining techniques, morphology of oocysts was best seen with Hot Modified Acid Fast stain. Conclusion: Routine screening of stool samples with Hot Modified Acid Fast staining should be carried out in all HIV seropositive patients, so that this population can be made aware of preventive measures.

PT-35

Intestinal parasitic infections in HIV seropositive and HIV seronegative individuals in Pune

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Intestinal opportunistic parasitic infections in HIV– infected patients present commonly as diarrhea. Knowledge about specific etiology of diarrhea may help in proper management. We aimed to study the spectrum of enteric parasites in HIV seropositive and HIV seronegative patients hospitalized for diarrhea. During April 2002 to December 2003, fecal specimens (N=416) from indoor diarrhea patients admitted at Dr. Naidu Hospital of Pune Municipal Corporation were examined for intestinal parasites by microscopy and special staining techniques. Of the 144 HIV positive patients 54 (37.5%) and of the 272 HIV –negative individuals 45(16.5%) were infected with one or more types of intestinal parasites. Multiples infections were more common among HIV -seropositive patients (7%) than HIV seronegative patients (2%) (P= 0.05). The parasites detected among HIV infected patients included *Microsporidia* (35.1%), *Isospora* (25.9%), *Entamoeba histolytica* (20.3%), *Cryptosporidia* (9.2%). The difference in the number of cases of *Isospora*, *Cryptosporidium*, and *Cyclospora* in HIV seropositive and HIV negative patients was not significant. However, *Microsporidia* were found to be significantly higher in HIV positive patients than in HIV negative patients (P<0.01). Conclusion: Diarrhea in HIV positive patients was associated with opportunistic parasites with *Microsporidia* being the predominant parasite.

PT-36

Diagnostic value of PCR versus specific local antibody in ocular Toxoplasmosis of HIV patients

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This study was aimed to evaluate nested Polymerase Chain Reaction (nPCR) for *Toxoplasma gondii* genome against Witmer Desmont's Coefficient (WDC) technique for laboratory diagnosis of clinically suspected Toxoplasma Rretinochoroiditis (TRC) in HIV patients. Patient group included 23 paired sera and intraocular fluid from 21 HIV patients with suspected TRC. Control group included 61 paired sera and aqueous humor (AH) from 61 patients undergoing uncomplicated cataract surgery and 33 AH from 33 patients with proven ocular inflammation due to infective agents other than *T. gondii*. All the above specimens were tested for anti toxoplasma antibodies (IgG and IgM) by ELISA (Biokit, Spain). Local antibody production in intraocular fluid was calculated by standard formula for WDC. The standardized n PCR for B1 gene of *T. gondii* was applied onto 117 AH (23 TRC and 94 Controls). Results: Overall WDC and/or n PCR were positive in 10/21 (47.6%) TRC patients. WDC was positive in 7/21 (33.3%) and n PCR in 9/21(42.8%) of TRC patients (p=0.52). Both WDC and nPCR were negative in all the 94 AH of controls. Results showed both WDC and n PCR to be equally sensitive technique for laboratory diagnosis of TRC. WDC is an indirect method of detection of Local antibody production whereas n PCR is a direct evidence of presence of *T. gondii* genome in AH. Based on the quantity, number of specimen(s) required, cost and rapidity of the technique, n PCR is a superior technique than WDC. n PCR is a rapid, reliable and cost effective laboratory technique for diagnosis of active TRC in HIV patients.

PT-37

Intestinal opportunistic parasites in HIV – infected patients with diarrhoea in India

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Opportunistic parasitic infections are major health problem in HIV seropositive patients. In this study we did prospective observation for determining the prevalence of opportunistic parasites in HIV– infected patients with diarrhea referred to National Institute of Communicable Disease (NICD) Delhi India. Stool samples were collected from 76 HIV infected individuals with diarrhoea and 50 control HIV negative individuals with diarrhoea. These were examined for intestinal opportunistic parasites by standard and special staining techniques. *Cryptosporidium* spp. was detected in 47.4% (36 out of 76) and *Microsporidium* in 28.9% (22 out of 76), by trichrome staining, *Giardia lamblia* was detected in 27.1% (19 out of 76) and *Entamoeba histolytica* in 24.7% (18 out of 76). 80.3 % of AIDS patients were of 20 – 40 years old. *Cryptosporidium* and *Microsporidium* beside *Giardia lamblia* and *Entamoeba histolytica* were common in HIV- infected patients with diarrhoea in India. Detection rate of *Cyclospora* and *Blastocystis hominis* was found to be low and no *Isoospora belli* was detected.

PT-38

Seroprevalence of *Toxoplasma* in HIV positive vs. HIV negative patients in North India

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The study was designed to compare the seroprevalence of *Toxoplasma* IgG and IgM antibodies in HIV positive vs. HIV negative patients in north India. A retrospective analysis of *Toxoplasma* antibodies was done in both HIV positive and HIV negative patients over a period of 3 years (from January 2003 to December 2005) at the Clinical Microbiology section, Department of Laboratory Medicine, All India Institute of Medical Sciences, New Delhi. Sera from 1,859 patients (1,772 HIV negative and 87 HIV positive) with miscellaneous complaints were collected for *Toxoplasma* IgG and IgM screening during the study period. Screening of all the sera was done by separate ELISA for IgG and IgM antibodies. Results showed that out of the 87 HIV positive patients, 33(37.93%) were positive for *Toxoplasma* IgG antibodies and only 1(1.15%) was *Toxoplasma* IgM positive. Amongst 1,772 HIV negative patients, 324(18.73%) were *Toxoplasma* IgG positive and 28(1.58%) were *Toxoplasma* IgM positive. Analysis of the data showed that the seroprevalence of *Toxoplasma* IgG antibodies in HIV positive patients was statistically significant ($p < 0.001$). Our study concludes that HIV positive patients are more prone to *Toxoplasma* infections; hence we propose that all HIV positive patients should be screened for *Toxoplasma* antibodies for better management and treatment.

PT-39

Intestinal parasite profile in the stool sample of HIV positive patients

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Present study aimed to see the spectrum of intestinal parasitic infestation in HIV positive persons.

A retrospective analysis of 279 stool samples of HIV positive patients received in the clinical microbiology division, Department of Laboratory Medicine at All India Institute of Medical Sciences, New Delhi, during the period of January, 2003 to December, 2005 was done. Of these 221 (79.9%) were males and 58 (20.1%) were females. Intestinal parasites were identified microscopically on Iodine mount preparation and modified ZN stain after formol ether concentration of the stool samples. The microscopic results showed that out of 279 stool samples 86 (30.7%) were positive for intestinal parasites. Out of 86, 75 (87.4%) were males and 11 (12.6%) females. The most common parasite detected was *Isospora* [26, (9.2%)] followed by *Cryptosporidium* [22 (7.8%)], *E. coli* [14 (5%)], *Giardia* [8 (2.8%)], *I. butschlii* [8(2.8%)], *E. histolytica* [5 (1.7%)], *E. nana* [2(0.7%)] and Blastocytis [1(0.3%)]. In our study the most common organism detected were coccidian parasites, of which *Isospora* was the commonest (9.2%), followed by *Cryptosporidium* (7.8%).

PT-40

Evaluation of the Q.B.C.® test and Polymerase Chain reaction for the diagnosis of *Plasmodium falciparum*

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Malaria diagnosis, with conventional Giemsa staining as a gold standard, has had several limitations. In this study two newer tests, the Quantitative Buffy Coat test (Q.B.C®) and the Polymerase Chain Reaction (P.C.R.) analysis specific for diagnosis of *Plasmodium falciparum* were studied. Blood samples were collected from 410 clinically suspected patients. Giemsa staining of thick and thin blood smears, P.C.R. analysis for *P. falciparum* and Q.B.C.® test using a special microscope was done for all the blood samples. A total of 160 (39 %) samples were positive for malarial parasite of which 63 (15.37 %) were positive for *P. falciparum* by Giemsa staining, 61 were positive by P.C.R. analysis. and 62 were positive by Q.B.C.® test. Out of the 250 Giemsa negative suspected cases, one was found to have *P. falciparum* infection on Q.B.C.® test and all were negative by P.C.R. analysis. Giemsa staining was time consuming, laborious and may give poor results in cases with low parasitaemia. The Q.B.C.® test was found to be 96.83 % sensitive and 99.6 % specific, required considerable amount of practice, costly equipment, but was fast and sensitive for diagnosis of malaria. The P.C.R analysis for *P. falciparum* was able to detect 3 cases of low parasitaemia missed initially on Giemsa staining, was 96.83 % sensitive, 100% specific but was very costly, needed a lot of time, practice and standardization. We conclude that in terms of performance, speed and sensitivity the Q.B.C.® test and P.C.R. analysis would be ideal to supplement Giemsa staining for confirmatory diagnosis of falciparum malaria.

PT-41

Seroprevalence of Hepatitis B and HIV infections among pregnant women attending antenatal clinics at a tertiary care Hospital in India

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This study was to evaluate the seroprevalence of Hepatitis B virus and HIV among pregnant women at All India Institute of Medical Sciences at New Delhi, India and to see any changing trends over three years (January 2003 to December 2005). Methods: Pregnant women attending antenatal clinics at All India Institute of Medical Sciences, New Delhi were subjected to serological testing for HBsAg and HIV antibodies by ELISA after informed consent, over a period of three years, from January 2003 to December 2005. A total of 2,917 pregnant women were assessed for HBsAg, out of which 32 were found to be positive for the surface antigen. HIV antibodies were tested in 2,311 females among whom 20 were positive on ELISA. An over-all prevalence rate of 1.09% was seen for HBsAg and 0.86% for HIV antibodies over the study period. A year-wise analysis showed an increase in the number of pregnant women who were covered for testing; 356 HBsAg & 137 HIV in 2003, 582 HBsAg & 289 HIV in 2004 and 1,979 HBsAg & 1,885 HIV in 2005. The prevalence rate of HBsAg positivity and HIV antibodies in pregnant women also showed an increasing trend from 2003 to 2004-05, (HBsAg positivity - 0.8% in 2003 to 1.3% in subsequent years and HIV positivity – 0% in 2003 to 0.96% subsequently). The study concludes and shows an increasing prevalence of hepatitis B and HIV infection among pregnant women in India, thus emphasizing the need that screening of these infections early in pregnancy is essential to reduce disease transmission to the offspring.

PT-42

Prevalence of Herpes simplex IgG (1 & 2) and IgM antibodies among women of reproductive age group at a Tertiary Care Hospital of Northern India

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The present study involves the serological assessment of Herpes simplex virus (HSV1& 2) antibodies in females of reproductive age group at a Tertiary care Hospital of Northern India. The study population comprised of 500 women (including 246 antenatal cases and 254 non pregnant cases) referred to our lab at AIIMS, New Delhi. The study period was thirteen months from June 2004 – September 2005. The serum samples were collected after verbal consent and were tested for antibodies (IgG & IgM) against HSV-type 1 and 2, using standard ELISA method. Of the 246 antenatal cases, a total of 60.5% females showed the presence of HSV (1, 2 or both) antibodies. The prevalence of HSV1 IgG was predominant and was found to be 91.3% (136/149) in contrast to the HSV2 IgG (8.72%). Only 3.4 % of the pregnant women were positive for HSV-IgM antibodies. Three cases (2.2%) showed both HSV type 1 and 2 infections. Prevalence of the HSV- antibodies was highest in the women of the age group 21-25 years. In non-pregnant cases the prevalence of HSV infection was 53.6%. In these patients the prevalence of HSV1 IgG was 96.4%, HSV2 IgG and HSV-IgM was 5.1% and 1.8%, respectively. The difference between pregnant and non-pregnant women was not significant. This study clearly highlights the need for diagnosing HSV type 1 and 2 infections in antenatal cases, which would avoid the risk of transmission of infection to the neonates and help in proper management of HSV infection.

PT-43

CMV Associated Pancreatitis & Acalculous Cholecystitis

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It presents the case report of two patients of retroviral disease coming to ARCON OPD with gastrointestinal system involvement which on evaluation turned out to be cases of Cytomegalovirus associated Pancreatitis & Acalculous Cholecystitis. Case 1: 39 years old patient referred from private hospital to our OPD for antiretroviral therapy. On history & as per the discharge card, patient was admitted in private hospital for acute pancreatitis with Bronchopneumonia & anemia. Patient's CD4 count was 137. Different possibilities were considered for Pancreatitis & ruled out with the help of history & examination. With reference to serological status of patient possibility of Cytomegalovirus was also considered although CD4 count was 137. Serum IgG & IgM for CMV done & was strongly positive for the same. Case 2: Twenty Seven years old patient known case of retroviral disease coming to our OPD with complaints of abdominal pain & fever. Investigations were suggestive of Acalculous cholecystitis on USG. CD4 count was 79. Keeping in mind possibility of Cytomegalovirus infection patient was asked for Serum IgG & IgM for CMV and came strongly positive for the same. Conclusion: As per references of prior studies detection of Cytomegalovirus infection affecting Pancreas & Gall bladder was detected only on postmortem. In our study of these two patients I could correlate affection in live patient who are on antiretroviral therapy with our institution. Also notable point is in first case, CMV infection is seen with CD4 count of 137 which is very uncommon.

PT-44

Interferon- γ responses to CMV and *Candida* recover slowly or remain low in immunodeficient HIV patients responding to ART

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When severely immuno-deficient HIV-1 patients begin anti-retroviral therapy (ART), CD4 T-cell counts usually increase within the first year. However, interferon-gamma (IFN- γ) responses to Cytomegalovirus (CMV) antigens peak at about three years and may subsequently decline. We monitored restoration of responses to *Candida* antigens and considered the findings in relation to putative regulatory T-cell populations. Peripheral blood mononuclear cells were cryopreserved from seventeen HIV patients (nadir CD4 T-cell count <100/?l) 0-8 years after the initiation of ART. Cells were stimulated with a *Candida spp* lysate. *Candida* enolase protein or CMV lysate and production of IFN- γ was assessed by ELISpot assay. CD57+ T-cells and regulatory T-cells (marked by CD25) were assessed flow cytometrically. Changes in responses from HIV patients over time on ART were assessed using flexible continuous piecewise-linear regression functions. Multiple measurements on the same individual were accommodated using mixed effects models, which allow individual-specific differences in the linear segments and estimation of the population average profile. CD4 T-cell counts increased five-fold and stabilized within 24 months on CART, following rapid control of plasma viremia. IFN- γ responses to *Candida* antigens began low and increased slowly, generating a positive slope up to 60 months on ART (*Candida* enolase $p=0.008$; *Candida* lysate $p=0.03$; mixed-model Wald test). Only two patients displayed a CMV or *Candida*-specific IFN-g response above the median for seronegative controls. Proportions of CD4 T-cells expressing CD25 or CD57 did not correlate with IFN- γ responses or change significantly with time. CD57 expression on CD8+ T-cells decreased with time on CART ($p=0.02$), but did not correlate with IFN-g responses to *Candida* enolase. Slow reconstitution of IFN- γ responses to CMV and *Candida* in previously immunodeficient patients with restored CD4+ T-cell counts on ART suggests a systemic defect in memory T-cell responses. This does not reflect frequencies of senescent or regulatory T-cells.

PT-45

PEGylated Liposomes Incorporation Enhances the Immunogenicity of gp41 antigenic epitope of HIV

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The efficacy of PEG grafted liposomes carrying epitopes on their surface showed enhanced adjuvanticity than liposomes carrying epitopes for elicitation and prolongation of immune response for an antigenic epitope of gp41, a transmembrane protein of HIV. The epitopes were incorporated onto the surface of liposomes by conjugating them with phosphatidylethanolamine which were used in the formulation of liposomes at an optimized ratio. Further, the liposomes carrying epitopes on their surface were sterically protected by shielding with methoxy Poly (ethylene glycol) mass 20 KD. Methoxy Poly (ethylene glycol) was activated to its electrophilic N-succinimide carbonate derivative, methoxy Poly (ethylene glycol)-N-succinimide carbonate that formed a urethane linkage with the amino group of phosphatidylethanolamine. The PEG grafted phosphatidylethanolamine was employed in the formulation of epitopes carrying liposomes for grafting the PEG moieties on the surface of the liposomes. The PEG grafted epitopes carrying liposomes showed about two times higher immune response and prolonged persistence of antibodies than that of liposomes carrying epitopes without PEG moieties.

PT-46

***Penicilliosis marneffei*: an emerging AIDS indicator disease among HIV infected patients of North Eastern India**

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Penicilliosis marneffei is a disseminated fungal infection caused by the fungus, *Penicillium marneffei*. It was first isolated from an experimental bamboo rat in Vietnam in 1956. In India, it was first recognized among the HIV infected patients of Manipur in 1999. Since the identification of the fungus from AIDS cases, more than 300 cases have been recorded from this small state in northeast India bordering Myanmar. Before the era of AIDS there were only 22 recorded cases in literature. But with the ongoing epidemic of AIDS, the prevalence of the disease has become so high in the endemic area of South East Asia that now it considered to be an AIDS indicator disease in Thailand. Like in Thailand among the HIV infected patients of Manipur, *Penicilliosis marneffei* is the third most common opportunistic infection next to Tuberculosis and Cryptococcosis. Main presenting feature is skin papules. Fine needle aspiration cytology reveals oval, sausage shaped yeast cells. Differentiating feature from other fungal infection is the division of the yeast cells by binary fission. Culture of the aspirate shows lemon or dark-gray colored fungal colonies with characteristic red pigments diffusing into the media. The fungus has not been detected from soil sample as in case of Thailand. Awareness and further epidemiological study to find out more cases of *Penicilliosis marneffei* in the North-Eastern states of India where bamboo rats are found is emphasized.

PT-47

Oropharyngeal Candidiasis in HIV Positive Patients

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Oropharyngeal candidiasis is one of the commonest and earliest opportunistic infection in HIV positive patients. Non-albicans *Candida* species are also emerging as important cause of oropharyngeal candidiasis. A total of eighty HIV positive patients having oropharyngeal lesions were studied over a period of one year. Two oral swabs were taken from every patient. One swab was used for wet mount and the other was inoculated on SDA with chloramphenicol. *Candida* isolates were identified up to species level by the conventional methods. Antifungal susceptibility testing was done by Disc Diffusion method using fluconazole (10mg), itraconazole (10mg) and amphotericin B (100 units) discs and also by broth dilution method. A total 52, (65%) isolates were obtained from 80 samples. *Candida albicans* was the commonest species 33 (63.46%). The other isolates of *Candida* were *C. krusei* 5 (9.61%), *C. dubliniensis* 4 (7.69%), *C. tropicalis* 3 (5.76%), *C. glabrata* 2 (3.84%), *C. guilliermondii* 2 (3.84%), *C. parapsilosis* 2 (3.84%) and *C. kefyr* 1 (1.92%). Among 33 strains of *C. albicans* obtained, all were sensitive to the three antifungal agents by both disc diffusion and broth dilution method and among 19 non-albicans species, fluconazole resistance was found in 15.78% strains (*C. krusei* 1, *C. guilliermondii* 1, *C. tropicalis* 1) by both the methods while additional 4 strains (*C. krusei* 2, *C. glabrata* 1, *C. parapsilosis* 1) categorized as resistant by disc diffusion method were found as intermediate by broth dilution method. *C. albicans* was found to be major isolate but non-albicans species having high fluconazole resistance were also observed as important emerging pathogens. Disc diffusion method showed good co-relation with broth dilution method.

PT-48

Oropharyngeal candidiasis in HIV sero-positive patients and their CD4/CD8 cell count ratio

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The acquired immunodeficiency syndrome (AIDS) is characterized by the gradual loss of immune system functions. The hallmark of this process is a marked depression in cellular immune response and often leads to several opportunistic infections including fungal infections. The most common manifestations of candidal infections in HIV-infected person are oropharyngeal candidiasis, an invasive life threatening disease ranges from 12% to 93% of cases and showing parallel decline in CD4 cell count and hence the CD4/CD8 ratio. The present work was done to know correlation between oropharyngeal candidiasis and CD4/CD8 ratio. For the study 18 HIV positive patients at their different stages of HIV infection and 10 HIV negative healthy individuals were enrolled at VCTC center KGMU, Lucknow. Oropharyngeal scraping swab specimen was collected from each individual, Direct KOH mount preparation, Gram staining and culture was done on Sabouraud dextrose agar medium. Identification of isolate was done by standard methods. CD4/CD8 T cell estimation of each individual was measured by FACS machine. Conclusion: Oropharyngeal candidiasis due to *Candida albicans* was present at all stages of HIV infection. Even at CD4 count > 500 cells/mm³, it is not the CD4 but CD4/CD8 ratio is more important to assess the oropharyngeal candidiasis.

PT-49

Clinicomycological Profile of HIV Infected North Indian Patients

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Developing countries like India have an enlarging population of patients with AIDS. The knowledge regarding the profile of these patients is far from complete. Many organisms responsible for opportunistic infections in such patients mimic similar clinical presentation. Identification of specific pathogens is important for the management of such cases. Thus the aim was to study the clinical profile and spectrum of opportunistic mycoses in HIV infected patients along with their CD4 counts. Thirty five patients, HIV positive by ELISA, attending the OPD or admitted to the wards of Lok Nayak Hospital and GB Pant hospital during the period of Feb 2005 to Dec 2005 were studied. The patients were interviewed and relevant history and clinical details were collected. Appropriate samples pertaining to the symptoms of the patient and the organ system involved were collected and processed according to a predesigned protocol. CD4 counts of these patients were also determined. Patients ranged from 25-65 yrs age group with male: female ratio of 3.7: 1. Heterosexual mode of transmission was the commonest (85.7%) followed by parental (8.6%) and homosexual (5.7%) route. Twenty one patients had gastrointestinal system involvement while respiratory system and central nervous system were involved in 11 and 5 patients respectively. Oral thrush was the most common opportunistic fungal infection in HIV positive patients followed by *Pneumocystis carinii* pneumonia and *Cryptococcal meningitis*. Pulmonary infection due to *Cryptococcus neoformans*, *Candida spp* and *Aspergillus spp* was seen in one patient each. CD4 counts were seen to correlate with the disease process in most of these patients. Conclusion: Opportunistic mycoses are a serious threat in HIV positive patients. An early suspicion and diagnosis and correlation with CD4 counts, is essential for treatment and management of these patients. It was seen that the clinical profile and diagnosis played a role in predicting the stage of HIV infection in our study.

PT-50

A Study of Fungal Infections in AIDS Patients

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The study was conducted at Himalayan Institute of Medical Sciences, Dehradun, Uttarakhand, India to determine the spectrum of fungal infections in AIDS patients. . All the patients who tested reactive for HIV and were hospitalized in the HIMS Hospital during a period of 24 months from January 2003 to December 2004 were screened for the presence of fungal infections. Direct microscopy was performed followed by culture on SDA. Results: A total of 2200 patients were screened during the period of 24 months and 28 tested reactive for HIV antibodies by two methods of ELISA (rapid and long well methods). The spectrum of fungal infections observed, included *Candida* species (78.57%), *Cryptococcus neoformans* (25%), *Sporothrix schenckii* (3.57%), Dermatophytes (42.85%). However no fungal infections were observed among two patients (7.14%). Conclusions: The fungal infections were a common entity among HIV reactive patients, and appeared mostly once the CD 4 count fell below 400 / μ L of blood.

PT-51

Correlation Between CD4 Counts and Opportunistic Fungal Infection in AIDS Patients

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The HIV/AIDS epidemic represents the most serious public health problem in India. Fungal infections from the bulk of opportunistic infections in AIDS and are increasing in the form of an epidemic parallel to the increasing AIDS epidemic. The risk of acquiring a fungal infection or its reactivation increases with a fall in CD4 count of the HIV infected patients as they progress towards AIDS. Correlation of these fungal infections with CD4 count i.e. the immunological status of the patients was therefore undertaken. Thirty five patients, HIV positive by ELISA, attending the OPD or admitted to the wards of Lok Nayak Hospital and GB Pant Hospital during the period of Feb 2005 to Dec 2005 were studied. The patients were interviewed and relevant history and clinical details were collected. Appropriate samples pertaining to the symptoms of the patient and the organ system involved were collected and processed according to a pre designed protocol. CD4 counts of these patients were also determined. Patients belonged to a wide age group of 25-65 yrs with a male: female ration of 3:7:1. The commonest mode of transmission was the heterosexual route (85.7%). The CD4 count ranged from 29-564 cells mm³ and the median CD4 count was 150 cells / mm³. Of the 15 patients with Oropharyngeal Candidiasis 66.7% patients had CD4 counts of <200 cells / mm³, and the rest had counts in the range of 200-500 cells/mm³ (33.4%). While eighty percent of the patients had *Pneumocystis carinii* pneumonia, and 100% of patients with Cryptococcal meningitis had CD4 counts in the range of 50-200 cells / mm³. Low CD4 count of <200 / mm³ were found to be significantly associated with the different opportunistic fungal infections. A close correlation was seen between CD4 cell count and the risk of developing fungal infections in our study. An attempt was made to identify clinical conditions predicting low CD4 counts to help in clinical monitoring and initiating anti-retroviral therapy or chemoprophylaxis for better patient management.

PT-52

Mycobacteremia in Indian HIV Positive / AIDS patients

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The incidence of TB in patients with Human Immuno deficiency Virus (HIV) infection is nearly 500 times higher than in the general population. Use of automated blood culture MB BacT system for detecting mycobacteremia even before the symptoms of tuberculosis appear in patients especially in the late-stage of HIV infection, has revolutionized the tuberculosis diagnosis. Here we conducted a study first time in India on non radiometric automated system to assess the incidence of mycobacteremia in HIV positive patients with tuberculosis. A total of 43 (40 men and 3 women) confirmed HIV infected cases were included with an age range of 20 - 47 (mean 31 ± 6.71) yrs. Tuberculosis was diagnosed on the basis of fever, cough, raised ESR level and weight loss followed by bacteriological confirmations. A 5ml of intravenous blood was inoculated directly into the MB BacT/ALERT (Biomeurieux, France) blood culture bottle as per the manufacturer instructions and incubated till the positive signal flashed on the machine. A total of 14 (30.6%) patients showed mycobacteremia. The time taken for the detection of mycobacteremia was 6–22 days (mean 14.3 days). The mean CD₄⁺ and CD₈⁺ value in these patients was 239.04 and 547.2 cells / mm³, respectively. Out of 14, 10 had *M. tuberculosis* infection and each had *M. avium* complex, *M. kansasii* and mixed infections of *M. tuberculosis* and *M. avium*. Blood was the only specimen for diagnosing mycobacterial infections in 18.6% (8/43) cases. In HIV positive patients, a significant proportion of pulmonary specimens are negative for acid fast bacilli because of the inaccessibility of the afflicted sites. And in extra pulmonary cases, the collections of specimens are comparatively difficult. So, blood can be used as an alternative specimen for the diagnosis of tuberculosis especially in HIV positive / AIDS patient.

PT-53

Tetrazolium Micro plate Assay as a Rapid and Inexpensive Colorimetric Method for Anti-tubercular Drug Susceptibility testing

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The emergence of multidrug-resistant tuberculosis underscores the need for low-cost, rapid anti-tubercular drug susceptibility test for *M. tuberculosis*. A new inexpensive colorimetric method with a tetrazolium indicator was compared with the automated BACTEC™ MGIT 960 culture sensitivity system and PCR RFLP method for its accuracy and rapidity. A total of 25 *M. tuberculosis* isolates were evaluated. Oxidation of 3-(4, 5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide (MTT) by MTb was estimated by using 200 of 7H9 Middlebrook broth in standard ELISA plate. Drugs were serially diluted by keeping a growth control. 100 of 1:100 diluted *M. tuberculosis* culture, was added and kept at 37°C, MTT dye was added to the growth control on 5, 7, 9, 11 days. Any color change of the medium from yellow to purple indicated the presence of viable bacilli. The absorbance was noted at 750nm. The results of the MTT assay were compared with the automated BACTEC™ MGIT 960 drug sensitivity system and PCR RFLP for detecting kat G mutation (Isoniazid resistance). Out of 25 isolates 6 (24%) were Single drug resistant, 8 (32%) two drugs resistant, 1 (5%) three drugs resistant and 2 (10 %) four drugs resistant while 8 found to be sensitive to all four drugs by BACTEC™ MGIT 960. Among these 30 % of the strains studied were multidrug resistant. The minimal inhibitory concentration (MIC) by MTT assay was found to be absolutely concordant with BACTEC™ MGIT 960 assay for all the 6 Streptomycin drug resistant isolates (MIC>6.9 ¼g/ml) and 4 ethambutol resistant strains. Where as, in the case of Isoniazid (MIC=0.1mg.ml) and Rifampicin (MIC≥1.38 ¼g/ml), 90% concordance were achieved. The molecular method, PCR RFLP on kat G gene showed 95 % concordance by detecting mutation (either Arg 463 Leu, Ser 315 Thr or both). MTT assay showed 100 % concordance in detecting resistance of streptomycin and ethambutol, where as 90 % concordance with isoniazid and rifampicin. An easy, rapid, and cheap assay could help to reduce the transmission of MDRTB by increasing the detection capacities of local laboratories and improving treatment segimens, thus reducing the amount of time the patients remain contiguous.

PT-54

First case report of indigenous Visceral Leishmaniasis from Central India

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Visceral leishmaniasis or kala-azar is endemic in eastern states of India. This paper describes first indigenous case of visceral leishmaniasis in a 7-year-old female child from Morena district of Madhya Pradesh, central India that is a non-endemic area. The child presented with fever for 10 days and was diagnosed by bone marrow microscopic examination and positive polymerase chain reaction (PCR). She had high titres of anti-leishmanial antibodies in her serum. Serological diagnosis was performed initially by Latex agglutination test using latex beads coated with rKE-16 antigen. Further antibody titres were detected using ELISA plates coated with rk-39 and rKE-16 antigen. Baby was successfully treated with Amphotericin B. The sequence analysis of the amplified product revealed 4 tandem repeat units each equivalent to 117 bp each. The repeat 1 had 97% homology with the 1st repeat of *Leishmania donovani* KE-16 strain and 92% homology with the *Leishmania chagasi*. Similarly the repeats 2, 3 and 4 had 97%, 98% and 99% homology with *L donovani* a Development of an immuno-filtration kit for detection of antibodies to HIV-1 and HIV-2 in human blood samples