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General Medicine

CLINICAL PROFILE OF PATIENTS WITH OPPORTUNISTIC INFECTIONS IN HIV AT AIMSR,HYDERABAD, TELANGANA.

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ABSTRACT HIV is a lenti virus (a subgroup of retrovirus) that causes infection leading to acquired immunodeficiency syndrome (AIDS). HIV causes progressive impairment in body's immune system leading to increased susceptibility to uncommon pathogens and malignancies. The present statistics reveal that 37.9 million [32.7 million–44.0 million] people globally were living with HIV (end 2018). 24.5 million [21.6 million–25.5 million] people were accessing antiretroviral therapy (end of June 2019) and 1.7 million [1.4 million–2.3 million] people became newly infected with HIV (end 2018).Without treatment there is quantitative and proportional decrease in CD+4-T cell over a period of years which results in development of AIDS. Opportunistic infections are more common in patients having CD4 counts below 350 and high viral load .They are the cause of increased mortality and in certain cases the diagnostic feature of AIDS .It is very important to treat opportunistic infections before starting HAART.Timely intervention of OI's not only helps HIV positive persons to live longer but it also helps to prevent transmission spreading to others in the community.

KEYWORDS : Opportunisticinfections ,INH prophylaxis,PJP,HIV 1&2 infection.

Introduction

HIV infection is an emerging major threat in Indian subcontinent .It is complicated by various opportunistic infections in adults and children and is associated with many other adverse health consequences, including an increased risk of death, significant socioeconomic burden and increased health care utilization. As we were gearing up to start ART Centre with a PPP model this study was planned to know the profile of patients diagnosed with HIV infection and to create an awareness among various departments caring for HIV patients, about the existence of opportunistic infections and adopt appropriate measures to prevent them.

HIV infection is complicated by various opportunistic infections whichinfluence morbidity and mortality.Tuberculosis, Pneumocystis JerovociPneumonia(PJP), cryptosporidiosis, toxoplasmosis, candida etc. are commonOpportunistic infections (OIs) gaining importance in becoming predominant cause of mortality even with wide spread use of ART therapy and with prophylaxis to these infections. Many infections mimic similar clinical presentation and pose diagnostic challenge.

With such significance, studies regarding opportunistic infections (OIs) aresparse in Hyderabad, Telangana.With this background, the present study wasundertaken to find the clinical profile of HIV disease at Apollo medical college ARTCentre

Methods

This is cross sectional, hospital based descriptive study regarding the clinical profile of HIV patients prior to the start of antiretroviral therapy, atAIMSR during January 2016 to July 2018.Approximately 71 consented patients, with known HIV positive status having OIs or patients with different OIs admitted to the hospital and later found to have HIV positive status were included in the study.

Inclusion criteria:1.All patients who were diagnosed HIV positive according to NACO guidelines 2.All HIV patients with opportunistic infections.

Exclusion criteria

1.Patients of HIV who are already on ART therapy.2. Patients harboring opportunistic infections who are immunosuppressed because of causes other than HIV. 3.Patients who don't consent for being included in the study.

Diagnosis of HIV infection in the included cases was done at ICTC (Integrated Counseling and Testing Centre) as per the NACO guidelines by three different methods Dotblot (comb AIDs), Immunochromatographic test (Pareekshak) and Immunoblot (Pareekshak). Those having reactive test results at other laboratories were sent to the ICTC for confirmation. 58 patients had HIV 1 infection(81.7%),10 had HIV1&2(14.1%) and 3 had HIV 2 (4.2%)Informed consent was taken in each case as per NACO ethical guidelines.

Detailed history, clinical examination and investigations were done as necessary like CD4+T cell count, CBC, ESR, blood culture, arterial blood gas analysis, HBsAg, Anti-HCV antibody, urine routine and culture, stool routine and culture, mantoux test, Gene expert sputum, CT scan brain, chest x-ray,CT thorax, MRI brain, MRI spine, fundoscopy, peritoneal fluid/Pleural fluid/CSF analysis, CSF PCR, FNAC of lymphnode and histopathology, oral scrapings for microscopy of fungal elements and upper GI endoscopy were performed as per the case requirement.

Treatment for OI's is started immediately according to NACO guidelines. Treatment for HIV 1 and HIV 1&2 is resumed at designated ART center.

Results

103 patients who were documented HIV positive, admitted to various medicine and surgical wards in AIMSR during January 2016- July 2018 out of which 71 ,who consented were included in the study. There was higher proportion of males 37 (52.1%) compared to female 34(47.9%). Daily wage workers(21 n-23.9%) topped the list among males (n-17 23.9%) and housewives among females(n-18 25.4%).Most of the cases reported from thedept of general medicine(n-34 47.9%),followed by Surgery and Orthopedics-(n-9,n-3)Obstetrics and Gyneac n-8,Chest and TB(n-8),skin-(n-4),ENT-(n-1).

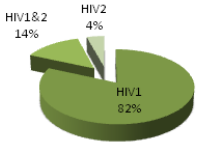

Figure 1: Types of HIV infection

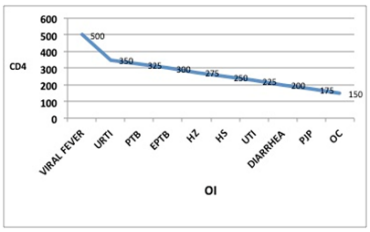

Figure 2: OI with CD4 Count

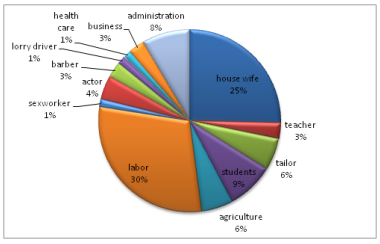

Figure 3: Profession of affected patient

In the present study, the most common symptoms of OI,at presentation were fever, weight loss, cough, shortness of breath,pain abdomen,diarrhea,vomiting, vaginal bleeding,vaginal discharge,rectal bleeding,dysuria,anal discharge,mass per rectum,generalized itching,rashes,herpes simplex,lymph nodal swellings etc. The most common OI were viral fevers including upper respiratory tract infections, urinarytract infections, tuberculosis, pneumonia, cryptosporidiosis diarrhea, oral candidiasis and herpes.

DISCUSSION

Among 71 hospitalized patients, the majority of the seropositive populations in this study were Laborers and housewives.Laborers were most common occupation found to be affected, as observed in other studies as the major link population between high-risk groups to general population and between urban to rural areas. Since the majority of females affected are housewives, it implies that marital life is a risk factor for those women who get infected by their HIV positive spouse.The present study found that most of the HIV infected patients were from sexually active age group. The commonest mode of acquiring infection was heterosexual contact, emphasizing the need to strengthen our Information education and communication (IEC) strategies to contain HIV/AIDS.HIV became responsible for significant morbidity and mortality due to underlying immune-suppression, which leads to life threatening opportunistic infections (OIs) during the natural course of the disease. Opportunistic infections lead to frequent morbidity and mortality that shortens the life span of people with HIV infections and requires expensive treatments which becomes a burden for a developing country.

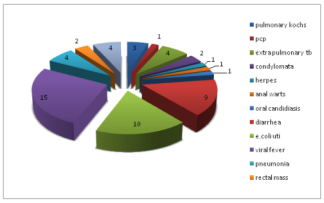

Figure 5: Opportunistic infections

Management Strategies:

The management and treatment for viral fevers and upper respiratory tract infections of viral etiology are treated symptomatically as in patients without HIV infection.

Pulmonary and Extra Pulmonary TB treatment as per NTEP guidelines following the DOTS regimen. Fixed drug combinations are encouraged and dose /regimen adjusted according to guidelines when severe adverse reactions occur. Recommended empirical regimens for bacterial pneumonia include the use of extended-spectrum cephalosporins (cefotaxime or ceftriaxone) or a fluoroquinolone) for 7-10 days. Combination therapy with a macrolide or quinolone plus a cephalosporin for those with severe illness.

Treatment of PJP includes Trimethoprim (15–20 mg/kg daily) and sulfamethoxazole (75–100 mg/kg/day) in three or four divided doses for 21 days.Alternative regimens for the treatment of PCP include: TMP 15 mg/kg/day orally + dapsone 100 mg/day orally for 21 days Clindamycin 600–900 mg intravenously q6–8h or 300–450 mg q6h orally + primaquine base 15–30 mg/day orally for 21 days Oral candidiasis is treated with Fluconazole 100 mg/day PO x 7–14 days or Fluconazole 200 mg/day x 14–21 days. 2nd choice — Itraconazole (100 mg bid, doses can be increased to a maximum of 400 mg a day x 14–21days) For oesophageal candidiasis, fluconazole 200–400 mg/day orally or itraconazole 200 mg/day PO x 14–21 days may be used. The duration of treatment should not exceed 21 days and treatment should be prescribed again in case of relapse.

Oral candidiasis is treated with Fluconazole 100 mg/day PO x 7–14 days or Fluconazole 200 mg/day x 14–21 days. 2nd choice — Itraconazole (100 mg bid, doses can be increased to a maximum of 400 mg a day x 14–21days) For oesophageal candidiasis, fluconazole 200–400 mg/day orally or itraconazole 200 mg/day PO x 14–21 days may be used. The duration of treatment should not exceed 21 days and treatment should be prescribed again in case of relapse.

Acyclovir 400 mg TID daily for 7 days was recommended forChronicmucocutaneous herpes simplex (HSV) . Treatment ofHerpes zoster included Oral acyclovir in the dose of 20 mg/kg body weight up to a maximum dose of 800 mg four or five times daily. Condylomataacuminata (genital warts) was treated with podophyllin 20% solution twice weekly until cleared.

Antipyretics, analgesics, and adequate IV fluids to promote adequate urinary flow and excretion of bacteria to treat urinary tract infection. Antibiotic therapy is based on culture sensitivity,Empirical antimicrobial therapy with a third-generation cephalosporin, ciprofloxacin or an aminoglycoside for 5 to 7 days.

Cryptosporidiosis diarrhea is treated with nitazoxanide (500 mg twice daily) or azithromycin 500 mg daily for 5 days. Dapsone in a dose of 750 mg daily is also helpful. Optimization of HAART and supportive treatment are the only approaches for treatment failure.

Primary prophylaxis was started for all HIV-infected patients when they come under stage III WHO classification, or stage II when the CD4 count is less than 200. After carefully excluding active TB,all HIV cases were treated with INH(Isoniazid) 300 mg once daily for six months.

Co-trimoxazole (sulfamethoxazole/trimethoprim [SMX–TMP]) 800 mg/160 mg PO once daily is effective in preventing PCP and toxoplasmosis. In case of allergy to co-trimoxazole, an alternative for primary prophylaxis against PCP and toxoplasmosis is dapsone 100 mg once daily with pyrimethamine 50 mg weekly.Stop prophylaxis If CD4 count >250 for at least 6 months and If patient is on ART for at least 6 months, is asymptomatic and well.

Patients with HIV 1 infection are started on the first line regimen TLE(Tinofavir+Lamivudine+Efavirenz) and HIV 2 with Lopinavir/Ritonavir+Tinofavir+Lamivudine. Counseling is offered for psychosocial support, monitoringadverse drug reactions and compliance with therapy by respected field experts .

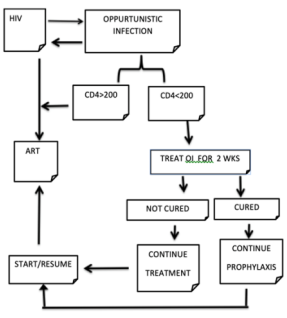

Figure 6: Treatment Algorithm

CONCLUSION:

It can be concluded from the results of this study that the signs and symptoms strongly associated with HIV infection can be used for vigilance of opportunistic infections.Early treatment of the same

improves the overall health status of infected HIV individuals.ART was initiated as early as possible, but delayed in select populationwith low CD4 counts and high viral load. Treatment for OI was initiated and ART resumed after 2 weeks, along with continued therapy or prophylaxis for OI in accordance with recommended NACO guidelines.Adverse reactions were monitored regularly and patients were encouraged to be compliant with their treatment through counseling at every visit.

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