

## ENT COMPLICATIONS AMONG HIV PATIENTS - FIVE YEAR COHORT STUDY

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### ABSTRACT

*A very limited literature is available to discuss the various complications and treatment options for HIV infected HAART patients which could be very useful for policy makers for implementation of new innovative programme at national and global level. In the above proximity of research, the present study aims to correlate the ENT complications with respect to the CD4 count at inception of HAART and follow up period. A retrospective and prospective study was done at Government Medical College, Anantapur, Andhra Pradesh. A total 70 PLHIV on HAART admitted cases data were collected from the pretested questionnaires and clinical diagnosis and history of the patients were extracted from the case reports. The data was processed using statistical software (SPSS 17) Pearson chi square test and independent t-test were used wherever applicable for test of significance. The complications were correlated to the CD4 count of PLHIV, the results eventually related to the different manifestations of ENT, the Oral candidiasis (21.0%), Generalized lymphadenopathy (5.0%), Neck mass (3.0%), Mycobacterium tuberculosis (15.0%), Mycobacterium avium (10.0%), Parotid gland cyst (2.5%), Bell's palsy (1.50%), Acute AND chronic rhinosinusitis (3.63%) and Adenoid hypertrophy (4.50%). The ENT manifestation is found in both initial and advance stage of HAART therapy with lower CD4 count.*

**KEYWORDS:** *Manifestation, HAART Therapy, CD4 Count, PLHIV*

**Received:** Feb 10, 2017; **Accepted:** Mar 04, 2017; **Published:** Mar 12, 2017; **Paper Id.:** TJPRC:IJOHNSJUN20173

### INTRODUCTION

According to World Health Organization (WHO) statistics for the year 2014, there are an estimated nearly 1.30 million Indians living with HIV infection. However the infection were transmitted through bridge populations like truck drivers, commercial sex workers and MSM etc., There is urgent need for reduction of HIV progression rates in high prevalence states viz., Andhra Pradesh, Karnataka, Manipur, Tamilnadu and Maharashtra. Recently NACO has reported that the prevalence and incidence was low when compared to general population (0.26). Mean while the HAART conversion rate has increased fivefold rate. It has been well documented that 70 - 90% of patients with HIV will at some stage present with an ENT manifestation of the disease.

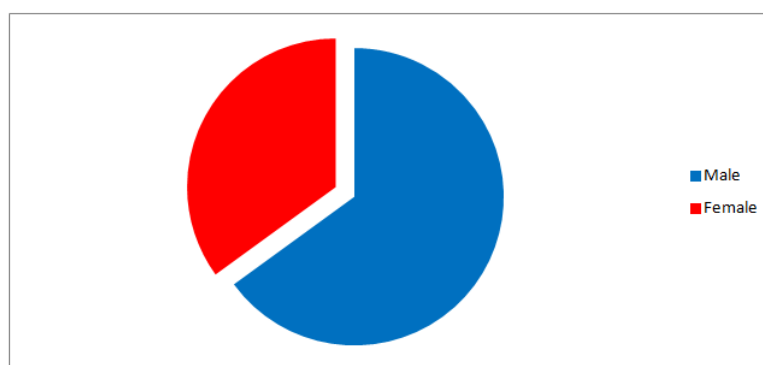
Nearly 90 lakhs PLHIV received HAART treatment at free of cost from Government ART centers. In due course of this treatment the many ENT complications were seen at inception of HAART treatment and later follow up stages. Approximately 30-40% of the patients are facing ENT complications at pre HAART and HAART therapy. Very limited literature is available to discuss the various implications and treatment options for HIV infected HAART patients which could be very useful for policy makers for implementation of new innovative programme at national and global level.

In the above proximity of research the present study aims to correlate the ENT complications with respect to the CD4 count at inception of HAART and follow up period.

## MATERIALS AND METHODS

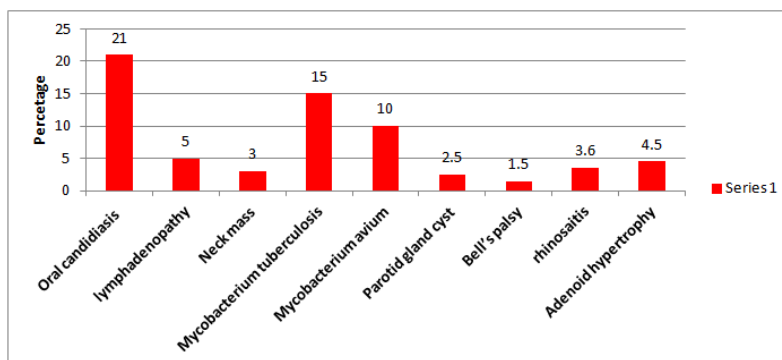
A retrospective and prospective study was done at Government Medical College, Anantapur, Andhra Pradesh during 2012-13 .A total 70 PLHIV on HAART admitted cases data were collected from the pretested questionnaires and clinical diagnosis and history of the patients were extracted from the case report . Demographic profile of the patients were collected from the pre-designed pro-forma (Age, sex, high risk behaviour etc) .The Diagnosis of ENT manifestations was made by detailed otorhinolaryngological examination along with pure tone audiometric assessment of hearing status wherever applicable. The data was processed using statistical software (SPSS 17) Pearson chi square test and independent t-test were used wherever applicable for test of significance.

## RESULTS



**Figure 1: Gender Distribution of the HIV Patients**

A total 70 patients data were extracted from the white pre ART card and case history of the patients , the male and female comprising 65.0% and 35.0% respectively. All patients meet inclusion and exclusion criteria and written consent obtained from the patients care taker and patients. As per the results the data reveals that 70% of the patients belonged to the lower socioeconomic status and elevated lack of literacy level. The mean age of the patients was 36.54 with 2.35 SD and IQR of the age group between 28-42 years. The average CD4 count at the time of inception of HAART was 158.0 micro /dL with standard deviation 68.90 micro /dl. After the inception of HAART I line therapy the mean CD4 count was increased up to 365.02 micro/dl . However due to lack of follow up of the patients, the treatment drug adherence was suboptimal stage and not well complied with HAART treatment. It is evident from the results lower CD4 count at inception of HAART could be more favored to express the ENT complication and also statistically significant at one percent level of significance ( $p < 0.00$ ). Gomina *et al* (2008) opined that lower CD4 count, paradoxical changes of infection , suboptimal drug adherence, lower socioeconomic status , poor nutritional value intake, lack of peer support , psychological depression, lack of family support, discordant couple could result in more complications and also positively associated with increase rate of ENT complications.



**Figure 2: Gender Distribution of the HIV Patients**

The complications were correlated to the CD4 count of PLHIV, the results eventually related to the different manifestations of ENT, the Oral candidiasis (21.0%), Generalized lymphadenopathy (5.0%), Neck mass (3.0%), Mycobacterium tuberculosis (15.0%), Mycobacterium avium (10.0%), Parotid gland cyst (2.5%), Bell's palsy (1.50%), Acute AND chronic rhinosaitis (3.63%) and Adenoid hypertrophy (4.50%)

## DISCUSSIONS

The comparison between CD4 count and ENT manifestations. Most ENT manifestations are seen at the range of 126-225 CD4 count. The co-relation between ENT manifestations and CD4 count with clinical stages of HIV did not reveal a definite pattern however the maximum ENT manifestations like oro pharyngeal candidiasis and cervical lymphadenopathy are mainly occurred in early stages of AIDS and the Non Hodgkins lymphoma are found to be occurred in an advance stages of AIDS with the CD4 count ranges from 25 - 125 cells /cumm, which is in accordance with the study of Yumoto E, Mori T *et al.*

In a study conducted by Lawson G, 10 National Journal of Otorhinolaryngology and Head & Neck Surgery, Vol. 2(11) No. 1, April 2014 Matar Net al Kaposi sarcoma being the most frequent neoplasm in HIV/AIDS patients but in the current study NonHodgkins lymphoma was the most frequent neoplasm associated with HIV. In a similar study conducted by Terrazas YA, Barrera CA et al Kaposi sarcoma was the most frequent presentation. In the present study ENT manifestation was present more in the CD count ranging from 125-225 cells/cumm this group constitutes 67.74% of HIV patients. CD 4 count ranging from 226-325 cells/cumm constituted 9.68% of patients with HIV infection, 14.52% patients with HIV did not have any ENT manifestation who were in the same CD count group. Patients with very low CD count ranging from 25-125 cells/cumm. In a study conducted by Zanoloka PA, Dotsenko ML et al found ENT pathology was found in 64.6% of the patients at immunological stage I of infection with human immunodeficiency virus (over 500 CD4 per 1 ml plasma), in 73.4% of the patients at stage II of HIV infection (200-499 CD4/1 ml), and in 90.7% of the patients

The present study envisages that lower CD4 count between 150-198 micro/dl and suboptimal adherence <80% , poor nutritional level intake and lost to follow up were found to have statistically significant association between the ENT complications at larger extent . However the patients not complied with HAART therapy were found negatively associated with the increase of CD4 count .

## CONCLUSIONS

The ENT manifestation was found in both initial and advanced stage of HAART therapy with lower CD4 count. Oral candidiasis, most commonest manifestation was seen in HIV infected on HAART patients followed by Generalized lymphadenopathy(5.0%), Neck mass(3.0%), Mycobacterium tuberculosis(15.0%), Mycobacterium avium(10.0%), Parotid gland cyst(2.5%) Bell's palsy(1.50%) Acute AND chronic rhinosaitis(3.63%) and Adenoid hypertrophy(4.50%).

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