

ENT Manifestations in HIV Infected Patients in PIMS, Islamabad

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A B S T R A C T

Objective: The aim of this study is to see the incidence of Ear, Nose and Throat (ENT) manifestations in HIV infected people presented in tertiary care hospital of Islamabad.**Methodology:** A one-year observational cross-sectional study conducted in Pakistan Institute of Medical Sciences (PIMS) Islamabad between January 2019 to December 2019. All the HIV infected patients who presented with ear, nose and throat manifestations were recruited in the study. Detailed history and examination were conducted after taking written consent. Analysis included calculations of mean values of quantitative association between ENT symptoms and demographic characteristics. Statistical analysis was estimated using either Chi-square test or t-test.**Results:** Majority of the patients presented with Otological manifestation of which the most common was chronic suppurative otitis media (14.28%). Most common Rhinological/Oropharyngeal manifestation included epistaxis (12.24%) and oral candidiasis (8.16%) respectively. Among neck manifestations cervical lymph adenopathy (18.16%) showed the highest percentage.**Conclusion:** The study shows a local trend of ENT manifestation in which the patient presented in later stage (WHO III) which resembled to the studies carried out in other developing countries showing ineffectiveness of current national HIV/AIDS programme.**Keywords:** HIV, Oral lesions, otorhinolaryngolog

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Introduction

HIV stands for human immunodeficiency virus, a virus that attacks the human body cells that help to fight against infections and hence weakens the body's immune system. This makes the human body more prone to various kind of infections and malignancies. If it is not treated properly it can lead to Acquired immunodeficiency syndrome (AIDS). There is currently no cure for the disease and prevention seems to be the only option, however by taking important and timely measures, the disease can be controlled, and infected

people can lead a healthy life. HIV is a global pandemic with estimation of 38 million active cases around the world in 2019 according to WHO HIV data and statistics. Despite of advancements in the medical field, the disease has not been tamed until now.

This is a well-established fact that there is a strong link between ENT diseases and HIV infection. In many studies it is documented that there are 75-90 percent of patients who are infected with HIV show ENT manifestations.¹⁻³ Often the ENT symptoms are the first to show up in an HIV patient, so it is important that ENT manifestations are recognised early, and proper treatment

is started as by the use of antiretroviral therapy, symptoms can be controlled while the associated diseases are dealt with.

Among different ENT manifestations, oral ones are the most frequently seen followed by neck, sinus and otological findings.¹ However, in children, most common ENT manifestation is upper respiratory tract infection, oral candidiasis, otitis media and parotitis.⁴ Oral lesions are usually seen with decreased CD4 count or during an acute attack of the disease and this is also used as clinical marker for the treatment failure of antiretroviral therapy.⁵

About 90% of patients with ENT manifestations also have neck mass as well, among which 42% are cervical lymphadenopathy.⁶ Possible infectious causes of cervical lymphadenopathy include tuberculosis, non-tuberculous mycobacterial infection, toxoplasmosis, bacterial lymphadenitis and fungal infections. Other possible cases are parotid gland enlargement who are not on antiretroviral therapy and includes HIV related lympho-epithelial cyst which is unique to HIV infected individuals.⁷

Although ENT symptoms are not diagnostic for the diseases they may be encountered throughout the progression of disease, so ENT physicians must know the manifestations of the disease and their respective diagnosis and treatment. This study is to identify the most prevalent ENT manifestation in HIV infected people presenting in PIMS Islamabad.

Methodology

This one-year Observational cross-sectional study was conducted after the approval of ethical review board. Nonprobability consecutive sampling technique was applied. The study was done from January 2019 to December 2019. Total of 147 HIV infected individuals with ENT manifestations presenting in HIV Clinic PIMS, Islamabad was enrolled in this study. All these patients were examined by otolaryngologists. A datasheet was prepared including patient's history, CD4 Count, Anti-retroviral therapy and results of ENT Head & Neck examinations. This datasheet was filled by ENT specialist after detailed clinical examination. Manifestation of ENT was thoroughly assessed and para clinical assessment like audiometry CT scan and fine needle aspiration cytology was carried out if needed. Demographic characteristics and laboratory tests were obtained through patient's profile. The main outcome of this study was chronic suppurative otitis media, otitis media with effusion,

epistaxis, allergic rhinitis, candidiasis and aphthous ulcer. Analysis including calculation of mean values of qualitative associations between ENT symptoms as well as demographics characteristics were carried out using SPSS Version 21.0.

Informed written consent was taken from each participant included in this study. This study is approved by the Ethical Review Board of Pakistan Institute of Medical Sciences Islamabad.

Results

A total of 147 patients were included in the study with 87 (59.18%) males and 60 (40.82%) females with a male/female ratio of 1.45:1. The age range was 3 to 75 years (Mean of 38.6 years, SD=3.45 ± 0.02). The CD4 count ranged from 4 to 2500 cells/mm³.

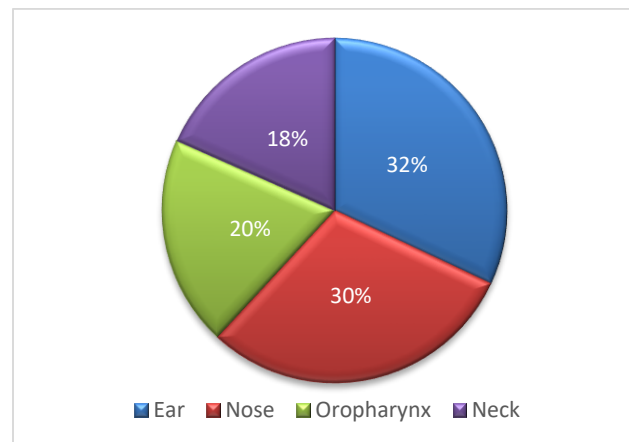


Figure 1: Total no of Cases

Mode of transmission included Intravenous drug abuse as the most common mode of transmission 50.34% (n=74) followed by blood transfusion 25.17% (n=37) and sexual transmission 12.24% (n=18). Other causes included pregnancy/childbirth and breast feeding and occupational exposure (Table I).

Most common otological manifestation was chronic suppurative otitis media which affected 14.28 % (n=21) of patients; followed by otitis media with effusion 6.8% (n=10); Sensory neural hearing loss (SNHL) 4.76% (n=7); facial nerve palsy 2.04% (n=3); otitis externa 2.04% (n=3); mastoiditis 2.04% (n=3).

Rhinological manifestations included epistaxis 12.24% (n=18); allergic rhinitis 6.8% (n=10); Atrophic Rhinitis 4.76% (n=7); cutaneous lesion 3.40% (n=5); adenoid hypertrophy 2.72% (n=4).

| | (n) | Percentage % |
|---------------------|-----|--------------|
| IV Drug Abuse | 74 | 50.35 |
| Blood Transfusion | 37 | 25.17 |
| Sexual transmission | 18 | 12.24 |
| Other causes | 18 | 12.24 |
| Total | 147 | 100.00 |

Oral cavity/Oropharynx manifestations included candidiasis 8.16% (n=12); aphthous ulcer 4.76% (n=7); tonsillitis 4.08% (n=6) and angular cheilitis 2.72% (n=4). Among neck masses cervical adenopathy with level III lymph node shows highest percentage which was 18.36% (n=2).

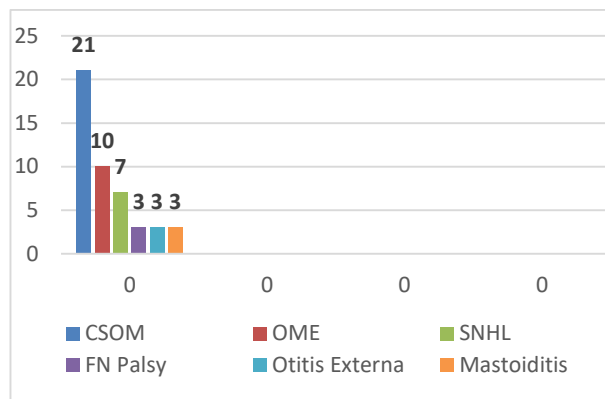


Figure 2: Otolological Manifestations.

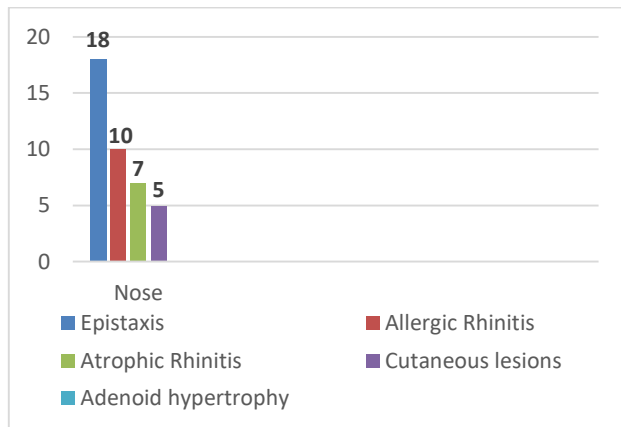


Figure 3: Rhinological Manifestations

Discussion

In Pakistan, HIV is still a taboo, patients are reluctant about the disclosure of disease and seeking help. Very little or no work has been done in this field on national level to spread awareness and control the pandemic. A few research papers have been published which enlighten

the current situation of this health issue in Pakistan and particularly in Islamabad.

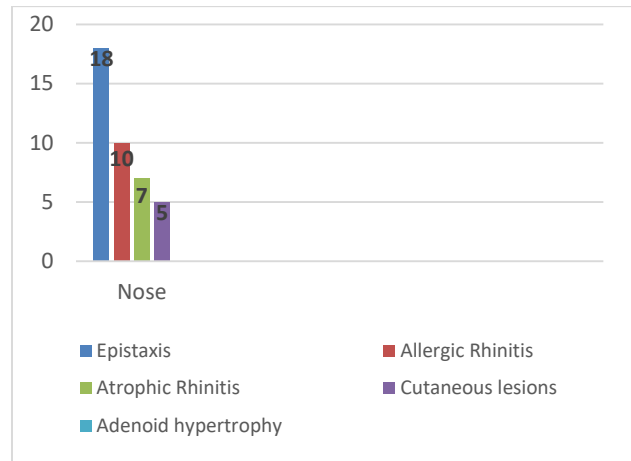


Figure 3: Rhinological Manifestations

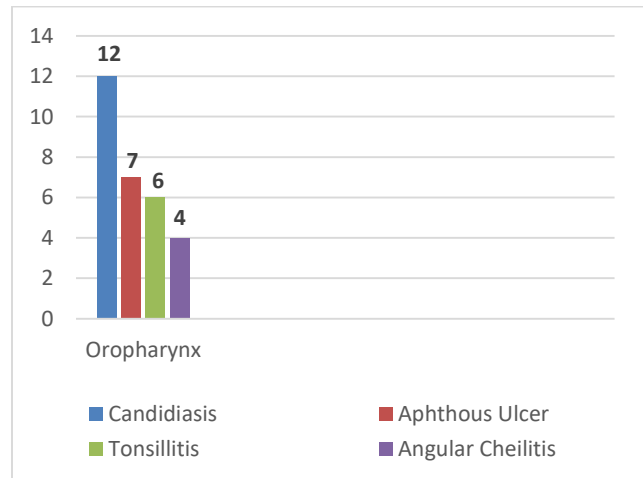


Figure 4: Oral/Oropharyngeal Manifestations

In various studies held across Pakistan, most common mode of transmission is intravenous drug abuse and sexual contact^{8,9} but in our study most common mode of transmission was intravenous drug abuse followed by blood transfusion.

Otolaryngological manifestations are the most common early presentation of HIV infection.¹⁰ About 80-90% of patients present with ENT manifestations in early or late phase of the disease.¹¹ Most of the studies done in past show that oral manifestations are the most common ENT manifestations followed by cervical lymphadenopathy.^{12,13}

Only one study has been carried out in the Pakistan (Lahore) that showed female predominance (n=200)¹⁴ which was in concordance with a south African study

(n=153), however our study shows that males were in majority which agrees with the studies carried in 1155 patients in 3 developing countries i-e: India (n=968), Iran (n=98) and Nigeria (n=89).^{6,11,15} One reason for this could be the more prevalent use of intravenous drug abuse among males. The most common Otological manifestation was chronic suppurative otitis media followed by Otitis media with effusion, Sensory neural hearing loss (SNHL), Facial nerve palsy, Otitis externa and Mastoiditis. All other studies showed their unique pattern of presentation. Hearing loss is often associated with impairment of peripheral auditory pathway¹⁶ and this pattern is specifically seen in elderly patients¹⁷ contrary to CSOM which has been seen in young population.

Among Rhinological manifestations epistaxis was the most common, it was also associated with hypertension and increased temperature, however the actual cause of epistaxis whether hypertension or increased temperature could not be found out. The other common manifestation was allergic rhinitis and was seen mostly in the months of March-May which coincides with the highest amount of pollen load in the atmosphere. Symptoms of adenoid hypertrophy were seen in younger age group.

Candidiasis was the most common oral/oropharyngeal manifestation followed by aphthous ulcers (recurrent), tonsillitis and angular chellitis. Tonsillitis was more prevalent in the younger age group. Neck manifestations included cervical lymphadenopathy as the most common and the only manifestation. Benign lymphoepithelial cyst and kaposi's sarcoma were not encountered during this study which was in agreement to the 3 studies mentioned above^{6,11,15}, there is only one study that has reported only a single case of Parotid benign lymphoepithelial cyst showing that it is an early manifestation (WHO I or II) when the immunity is relatively strong.¹⁸ According to WHO Classification system the top 5 ENT Manifestations were Cervical Lymph adenopathy (Stage III), CSOM (Stage III), Epistaxis (Stage III) OME (Stage II) and allergic rhinitis (Stage II). The majority of cases presented in later stage i.e. WHO Stage III this is in concordance to other studies which were carried out in developing countries but contrary to the study that was carried out in sub-Saharan Africa in which the patients presented early i.e. Stage I/II, however no patient presented with opportunistic infections. Major reasons for this pattern of late presentation are limited screening, HIV still being a taboo and low compliance to follow-up of diagnosed HIV/AIDS patients who keep transmitting

the disease to their close contacts and never get them screened. Socio-economic constraints and relatively poor awareness amongst the population are also considered to play a role in the current pattern of presentation.

Limitations: The current study was carried out in a single tertiary ENT referral centre and represents the local trend, a more detailed study involving multiple centres from all provinces of Pakistan would better identify the National trend.

Conclusion

This study showed a local trend of ENT manifestations in which the patients presented in later stage (WHO III) and this resembled to other studies carried out in India, Nigeria and Iran. Although our Government is doing its best to curb morbidity caused by this global health issue, our study indicates towards the need for better awareness, education of people and an improved National plan for this issue.

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