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Mycological studies on the spate of HIV positive clients attending an HIV clinic in federal medical center Owerri, Nigeria

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Abstract

Background:

Human immune deficiency virus (HIV), the causative agent of Acquired Immune Deficiency Syndrome (AIDS) has remained a global cankerworm, with more impact in the sub-Saharan Africa. This virus destroys and depletes the human CD4 cells, leading to immune deficiency state and making the individual susceptible to opportunistic infections. Fungal opportunistic infections are among the common pathogens seen earlier in HIV positive individuals and may present as respiratory diseases like Pneumocystis jiroveci pneumonia and pulmonary cryptococcosis. This study was aimed at understanding the pattern of fungal opportunists in the sputa of HIV positive individuals in our locality, to understand the demographics among those with the fungal isolates and to correlate CD4 level of the patients with the isolated opportunistic fungal pathogens.

Methods:

This is a prospective study in design, study area was Federal Medical Centre Owerri, Imo state, Nigeria, study population included HIV positive individuals who are more than fifteen (15) years and have been having chronic cough (defined as cough more than fourteen (14) days). The sample size was seventy three (73) according to the state HIV prevalence of 3% and using the standard formula of $n= Z^2pq/d^2$. Samples were collected, processed and organisms identified and results tabulated.

Results:

Out of the seventy three (73) sputa sample, fifty (50) showed positive growth while twenty three (23) did not show any growth. 80% of the grown organisms were Candida organism and 57.5% of them were albicans. *Candida albican* had the highest incidence (31.5%) and seen more in the age bracket (25-34). It is also rarely seen when the CD4 cell count is more than 500 cell/mm^3 but very common when count is <400cells/mm^3. *Cryptococcus neoformans* had (6.85%) and isolated in individual with CD4 count < 100 cells/mm^3, *Aspergillus flavus and A. fumigatus* were isolated at 56 and 367 cells/mm^3 with incidences of 1.37% respectively. The *Penicillium marneffi* reported as the emerging fungal infection among HIV clients in Southeast Asia was not seen in our series.

Conclusions:

Most pulmonary fungal opportunistic infection in the setting of HIV often mimics pulmonary tuberculosis. However, working knowledge of the fungal profile in any environment and HIV patients will help the clinician in the appropriate management of the clients—in terms of prophylaxis and therapeutics.

Keywords: Mycology, Sputa, HIV, FMC owerri, and Nigeria.