Burden of serious fungal infections in Nigeria, Poster Nr: 1035

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Abstract

Invasive fungal infections (IFDs) are frequently life threatening diseases in Nigeria. We have estimated the number of serious fungal infections in Nigeria based on available data and estimated prevalence of risk factors.

Introduction

Invasive fungal infections have emerged worldwide as an increasingly frequent cause of opportunistic infection [3]. The incidence of nosocomial fungal infections has continued to rise over the past two decades in parallel with advances in medical and surgical procedures resulting in considerable mortality and high morbidity rates [45]. Bone marrow and solid organ transplant procedures, malignancies, surgery and medical intensive care have largely increased the number of profoundly immunosuppressed patients at high risk of opportunistic infections [5]. There is a dearth of data from Nigeria on the burden of these life threatening disease entities, but data from a survey of the epidemiology of sepsis conducted in the USA revealed that the incidence of fungal sepsis increased threefold between 1970 and 2005 [6] and this is despite the fact that most often the diagnosis is post mortem [7]. Nigeria is the most populous black nation in the world with a population of 130million people and an average life expectancy of 55 years. The total number of HIV/AIDS is 2.4 million and AIDS-related deaths as of 2010 was 215,130 [8]. A full search of published literature only revealed few case reports on invasive fungal infections in Nigeria. There very few epidemiological data on serious fungal infections in Nigeria.

We therefore estimated the burden of serious fungal infections in Nigeria based on the population at risk.

Materials and Methods

A full literature search using Google Scholar, PubMed website, African Journals Online and grey literature was done to identify all epidemiology papers reporting fungal infection in Nigeria. The burden of fungal infections in Nigeria is estimated to be 5.3/100,000 of the population at risk.

Discussion

Invasive fungal infections (IFDs) are frequently life-threatening infections with high morbidity and mortality rates. The groups of patients at risk are critically ill, haematological malignancies; solid organ tumour; diabetes; neonates; HIV/AIDS; bone marrow and solid organ transplant patients to name the major ones. All these groups of patients are seen and managed in our environment.

There is paucity of data on IFDs. The question therefore is “are there no IFDs in our environment?” or just lack of awareness? but the groups of patients at risk abound in our environment.

Our findings revealed a number of epidemiological reports on superficial and nosocomial fungal infections with an estimated total burden of 15,581,400 cases of cases in children [10], and about 1,500,000 women with recurrent vaginal candidiasis [11].

We estimated 74,594 cases of Pneumocystis pneumonia from data from other African studies which were predominantly in the HIV/AIDS population [12].

Estimated cases of nosocomial and invasive fungal infections (candidiasis, invasive aspergillosis, cryptococcal meningitis, mucormycosis, histoplasmosis, candida pneumonia) is 11.9/100,000 of population at risk. A study on cryptococcal antigen screening amongst HIV/AIDS patients revealed a prevalence of 12.7% [12].

Long term respiratory (chronic pulmonary aspergillosis, ABPA, SAFS) caseload is estimated at 21/100,000 of the population at risk, although there may some duplication and overlap.

The prevalence of blindness in Nigeria is 0.79/1000 and a major contributor accounting for 12% [13]; however there are no data on fungal keratitis in Nigeria (a country with a large population of rural dwellers and farmers).

There have been no proactive searches for fungal sepsis Deaths due to the fact that patients pay for every stage of their management in the hospital so more cases are missed.

Conventional diagnostic tests such as direct microscopy, histopathology and culture are routinely used, but not galactomannan, P- Or of antigen, or DNA detection tests and this may have impacted on the ability to diagnose invasive fungal infections.

Epidemiological data on the burden of fungal infections in our environment will be public health impact and influence the management protocol of the groups of patients at risk.

Conclusion

Our estimates indicate that over 11.8% of the Nigerian population is estimated to suffer from a serious fungal infection each year. If these cases and recurrent vaginal thrush are excluded, over 60,000 are estimated to be affected, with substantial mortality. Epidemiological studies are urgently required to validate or modify these estimates.