

Research and Reviews in Clinical Microbiology: Virology and HIV Medicine-A book Review

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Received November 02, 2018; Revised December 05, 2018; Accepted December 13, 2018

Abstract Clinical microbiology is a vast subject that covers a wide range of sub categories that include clinical bacteriology, clinical virology, clinical mycology, and clinical parasitology. The present book is a compilation of both research and review pieces related to the field of clinical virology and HIV medicine.

Keywords: clinical microbiology, virology, HIV medicine

Cite This Article: Venkataramana Kandi, "Research and Reviews in Clinical Microbiology: Virology and HIV Medicine-A book Review." *American Journal of Infectious Diseases and Microbiology*, vol. 6, no. 3 (2018): 72-73. doi: 10.12691/ajidm-6-3-2.

1. Book Review

The book has in it a systematic compilation of both research and review articles, related to clinical virology and human immunodeficiency virus (HIV) infection. All the chapters were extensively peer-reviewed. The chapters one to five concentrate on the application of various biological markers in the management and progression of HIV disease both in patients who are treatment naïve and the ones who are on the highly-active antiretroviral therapy (HAART). The studies have positively evaluated the role of alternate biomarkers in comparison with the traditional biomarkers that include the CD4+ T lymphocyte counts and the HIV/RNA viral load. The alternate biomarkers assessed include the biochemical parameters like the serum albumin, globulin, gamma glutamyl transpeptidase, lactate dehydrogenase, cardiovascular markers (high density lipoproteins, low density lipoproteins, total cholesterol, creatine kinase (CK/MB)) and the haematological markers such as haemoglobin, erythrocyte sedimentation rate, absolute eosinophilic counts, and total leucocyte counts. Biomarkers suggesting inflammation like the C-reactive protein was also assessed. Chapter two in specific has positively evaluated the ability of alternate biomarkers to predict the CD4+ T lymphocyte counts, when they fall below 200 cell/mm³.

Chapters six to eight concentrate on the evaluation of bacterial, fungal and parasitic infections among HIV seropositive patients. Chapter six highlights the bacterial and fungal colonizers in the oral cavity and compares the differences in the colonization before and after the initiation of HAART. This study emphasizes the fact that during HIV infection, the microbes that colonize in the humans may turn opportunistic and could cause infections

as the HIV disease progresses further towards acquired immunodeficiency syndrome (AIDS).

Chapter seven in specific signifies the importance of assessing the virulence determinants of the fungal species isolated from HIV infected patients. The coagulase activities of *Candida* species against various sources of plasma was analysed. This chapter signifies the importance of knowing the potential for a colonizing microbe to cause an opportunistic infection.

The chapter eight underlines the burden of parasitic infections that cause severe diarrhoea, prevalent among HIV seropositive patients and their correlation with the CD4+T cell counts.

Chapters nine and ten review the potential role of alternate biomarkers in the assessment of disease stage and progression in the HAART era. Chapters eleven to thirteen concentrate on the role of the alternate biomarkers and their potential in predicting the infectious and non-infectious complications that may arise during the HIV disease progression and HAART therapy. The history of evolution of HIV disease and the current status has been clearly discussed in the chapter eleven.

Chapter twelve reviews the adverse effects of HAART. Role of HAART in the development of non-infectious complications have been systematically delineated. HIV and HAART were evaluated for their role in the development of cardiovascular diseases, liver complications, and immune activation disorders.

Chapter thirteen emphasizes the role of system-based management in comparison with the traditional management of HIV infected patients on HAART, which is routinely done using TCD4+ T cell counts and HIV/RNA viral load estimation.

Effect of co-morbidities on the HIV disease progression in the era of HAART was reviewed in chapter fourteen and chapter sixteen, especially in the HIV infected illicit drug users and tuberculosis patients respectively.

Role of HIV-1 infection in the lipid metabolism and the development of cardiovascular diseases is reviewed in chapter seventeen. Chapters eighteen and nineteen stress on the management and care of HIV infected population respectively. Role of adverse drug reactions on the management and progression of HIV disease was reviewed in chapter twenty.

Chapter twenty-one presents the five-year trend analysis on the seroprevalence of blood-borne viral infections that include HIV-1, Hepatitis B virus (HBV) and Hepatitis C (HCV) viruses in a tertiary care teaching hospital. This study demonstrated that there was an increasing trend of HBV and HCV as compared to HIV which showed a trend of decline.

Chapter twenty-two is focussed on the epidemiology, laboratory diagnosis and management of Dengue viral infection. This chapter also presents a two-year trend analysis of seroprevalence of Dengue viral infection in a tertiary care teaching hospital.

Chapter twenty-three reviews the role of HCV in the development of liver disease and probably liver cancer. It also stresses on the need for the epidemiological studies

on the prevalence of HCV genotypes and formulating and implementing specific guidelines in the diagnosis and management of HCV infected patients.

Chapter four reviews the role of Chikungunya virus (CHIKV) as an emerging and re-emerging arboviral infection. It presents the history, pathogenicity, clinical features, laboratory diagnosis and the management of CHIKV infection.

Chapter twenty-five summarizes the applications of molecular methods over immunological techniques in the diagnosis of viral infectious diseases.

Over all this book could be of a great interest to the budding clinical microbiologists with its wide collection of both research and review pieces.

References

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