

Viral diseases in Family Practice



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Despite the fact that the science of virology is relatively young, infectious diseases have been an ever-present threat to humankind from ancient to modern times. It was only over 100 years ago that viruses were identified as being distinct from bacteria by showing that they were filterable and therefore much smaller than bacteria. The world will never be free from infectious diseases in spite of the medical advances that we enjoy in the 21st century. This is illustrated by the Black Death in the Middle Ages, the 1918 “Spanish Flu” pandemic, towards the last quarter of the 20th century the HIV/AIDS pandemic and the current threat of an avian u-related pandemic. Medical science has been successful in eliminating one viral infection so far. Smallpox was eradicated in 1980 by the use of a live attenuated vaccine. Current endeavours to eradicate other viral infections such as poliomyelitis and measles are much more challenging than initially anticipated. In spite of medical advances in the biotechnology field such as developing new and innovative therapeutic strategies and new vaccines we are continually challenged with the appearance of new pathogens. Examples of the re-emergence or resurgence of known pathogens are West Nile fever, dengue, tuberculosis and malaria. Overall, infectious diseases remain the third leading cause of death in the United States each year and the second leading cause of death worldwide.

In this issue clinicians from the Departments of Medical Microbiology, Oral Pathology and Oral Biology and Medical Virology at the University of Pretoria have compiled information on topics perceived to be relevant for the medical and nursing professions in the country. We believe that the infections and diseases selected for discussion are issues that clinicians are confronted with on a weekly if not daily basis in their practices.

With the rapid escalation of new knowledge in the HIV/AIDS field, especially the development of sophisticated assays to diagnose and monitor disease progression and treatment, a practical and up-to-date approach is important for every clinician in South Africa. It is essential to differentiate between assays used to diagnose HIV infection from those used to monitor disease progression. Despite the implementation of various prevention strategies, vertical transmission of HIV still occurs too often in our country. In the article “Diagnosis and Monitoring of HIV Infection”, attention is also paid to the diagnosis of HIV infection in infants younger than 18 months of age.



Countries in southern Africa have the highest HIV prevalence rates in the world. This region accounts for only 3% of the global population, yet some 50% of the global HIV cases. Some of the infection's earliest manifestations can be seen in the oral cavity, making the colour photographs in the article on “Oral manifestations of HIV infection” very valuable with regard to clinical differential diagnoses.

The use of vaccines has dramatically decreased the annual deaths and lost years of healthy life due to viral infections including many childhood infections. With the possible exception of providing clean drinking water to populations, no other human endeavour has had such an impact on lowering mortality

rates, as the development of vaccines. In the “Basics of Viral Vaccines”, the current vaccines available in South Africa and their usage is discussed.

Difficulty in interpreting the markers of hepatitis B infection is frequently encountered in clinical practice. In the article on “Viral Hepatitis” the five most common “Hepatitis viruses” are discussed with reference to clinical disease patterns, their complications, diagnoses and treatment. Although many of these infections are asymptomatic, they nevertheless may have serious complications such as the development of hepatocellular carcinoma.

One of the most neglected areas in infectious diseases is the recognition of arthropod-borne viruses, the so-called arbovirus infections. These viruses are transmitted between vertebrate hosts by blood-feeding arthropod vectors. Humans are usually incidental hosts in these transmission cycles, since they do not naturally form part of the maintenance of these infections in nature. As mentioned, several of the arbovirus infections fall within the category of emerging or re-emerging infectious diseases (yellow fever, West Nile fever and dengue). Reasons for the emergence of these infections are the expansion of international travel and trade and the deterioration of public-health infrastructure provision such as vector control and vaccination of at-risk populations. Due to their mostly non-specific presentation, many of these infections go unrecognised. An understanding of their geographic distribution and transmission patterns will help to clinically recognise their presentation and their sometimes not-so-benign complications. This is in sharp contrast to the few Viral Haemorrhagic Fever (VHF) cases that often appear as items in the local newspapers. In South Africa, Crimean Congo haemorrhagic fever (CCHF) virus is the most frequent VHF virus detected. Humans appear to be the only host of CCHF in which disease manifest and where it often results in severe haemorrhagic disease.

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