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VIRAL HEMORRHAGIC FEVER

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PREFACE

Infectious diseases plays a major role in our society, affecting our development, the way we relate ourselves to our surroundings. In spite of the technological development around us, some of us escape from the hold of the infectious disease, whether it is as mild but discomforting as common cold, to a serious life-threatening influenza. There are many new emerging infections and organisms causing different diseases.

The main reason to write a monograph on Viral Haemorrhagic Fevers is because of the constant fear that these virus can cause high mortality and also because of my personal interest in these diseases. There is so much to learn and understand from these diseases, on how these viruses contain these pandemics and the end result of these diseases.

Viral haemorrhagic fever consist of a variety of human illness and animal illness that is caused by viruses belonging to the RNA family such as Arenaviridae, Filoviridae, Bunyaviridae, and Flaviviridae. Basically viral haemorrhagic fever denotes multi organ dysfunction involving damage of the vascular system, leading to the impairment of the body's ability to regenerate. Most of the Viral haemorrhagic fever presents with bleeding manifestations and fever, and in severe cases can progress to shock and demise. There are few exceptions in Viral haemorrhagic fever viruses which will only cause mild illness. Viral haemorrhagic fever can present as an isolated case due to local causes or it can also present as an epidemic.

This book is primarily targeted at the front line warriors, virologists, biomedical researchers, and students of medicine wanting to acquire a rapid overview of these viruses linked only by their propensity of causing diseases with

BOLIVIAN FEVER

Bolivian fever is a severe febrile illness also called as black typhus, caused by Machupo virus which is again a family member of arenaviridae. Bolivian hemorrhagic fever (BHF) appeared from 1959 to 1962 near the Amazon River in Bolivia. Transmission of the virus is either foodborne, aerosolized or by direct contact. The incubation period varies from 7 to 14 days with the onset being insidious. It begins like an influenza-like illness accompanied by malaise and fatigue. It is then followed by abdominal pain, anorexia, tremors, prostration and severe limb pain. Nearly one-third of patients show a tendency to bleed, with petechiae on the trunk and palate, and sometimes bleeding from the gastrointestinal tract, nose, gums and uterus. Half the patients develop a fine tremor in the tongue and hands, and some may have more pronounced neurological symptoms. This acute disease may last for 2–3 weeks. Rapid death may be caused by the virus following certain hours or days of the onset of virus. Diagnosis of the virus is done in the laboratories through rapid enzyme-linked immunosorbent assays for antigen and IgM antibodies. Usage of Trixton – 100 is another inexpensive reagent which could be used in the diagnosis of the virus. Just like all other arenaviridae group of virus, even this Machupo virus responds to the intravenous treatment of ribavirin. Additional to this, vaccine of AHF can give cross protection to BHF and may become a protectiove measure against the virus for high risk individuals. Despite all this, the best way to prevent the spread of virus is to control or stop the contact between human and the mice through trapping, territory monitoring and elimination of rodent food sources.


BOLIVIAN HEMORRHAGIC FEVER
Acute febrile disease with hemorrhagic manifestations
Machupo virus
(family Arenaviridae)
First recognized in the rural areas of northern Bolivia in 1959
Flu-like symptoms and general illness
Prodromal phase
Mortality rate - 25-30%
Rodent Calomys Callosus (large vesper mouse) is the primary vector and reservoir
Hemorrhagic/ neurologic phase - Hemorrhage, coma
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