



RECENT EMERGING DISEASES LIKELY TO CAUSE MAJOR EPIDEMICS

Pharmacology

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KEYWORDS

Lassa fever, Infection, Ebola Virus, Digestive system, illness.

INTRODUCTION:

The Diseases caused by germs and which may infect any part of the body are called Infectious Diseases. They can spread by any means where there is a germ. They are caused by pathogenic microorganisms such as bacteria, virus, parasites and fungi. Germs can be spread by direct or indirect contact. Vaccination, maintenance of proper hygiene and medicines help in the prevention of infections. Infection is the growth of an organism's body tissue by disease causing agents, their growth and the reaction of host tissue to the infectious agents and the toxins they produce. Infectious disease, also known as transmissible disease is illness resulting from infections.

TYPES OF DISEASES:

S. No.	Name of Diseases	Causative agents	Effects on body parts
1	Lassa fever	Lassa virus	GIT, CVS, Digestive system, respiratory tract, nervous system etc.
2	Nipah	Nipah virus	Respiratory tract
3	Crimean-Congo-hemorrhage	Crimean Congo hemorrhage fever virus	GIT, CVS, Digestive system, nervous system etc.
4	Ebola	Ebola virus	Immunological disturbance

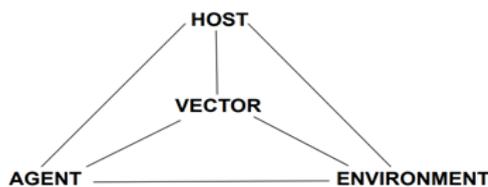


Fig.1: Host vector agent flow chart

LASSA FEVER:

Lassa fever was first noticed in Lassa town in the state of Borno Nigeria, hence the name 'Lassa fever' it has become endemic in many parts of West Africa. Lassa fever is common in Edo Central District of the Mid-Western Region of Nigeria. The disease can be severe and death occurs in around 15–20% of severe hospitalized cases. The pathogen was identified in 1969 when three American nurses became infected in Lassa, Nigeria. Lassa fever is an acute viral hemorrhagic illness caused by the arena virus, Lassa virus [1,2].

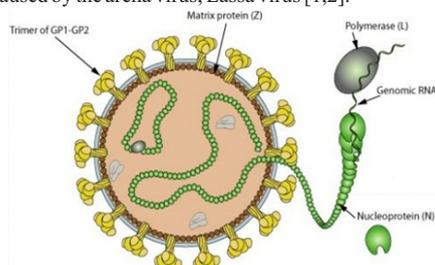


Fig.2. Lassa Fever Virus

Patients referred with fever and admitted to the GRC first undergo malaria rapid diagnostic test (RDT) (SD Bioline, HRP-2 Standard Diagnostics, Kyonggi, Republic of Korea) and are assessed clinically. Those found to be malaria positive on testing receive a course of anti-malarial drugs, and antibiotics if clinically indicated [1].

NIPAH:

Nipah virus infection is an emerging disease endemic in Southeast Asia. Nipah virus (NiV) is a member of the family *Paramyxoviridae*, genus *Henipavirus*. NiV was initially isolated and identified in 1999 during an outbreak of encephalitis and respiratory illness among pig farmers and people with close contact with pigs in Malaysia and Singapore [3,4]. The World Health Organization (WHO) recently published a concise summary of early knowledge about NiV [6].

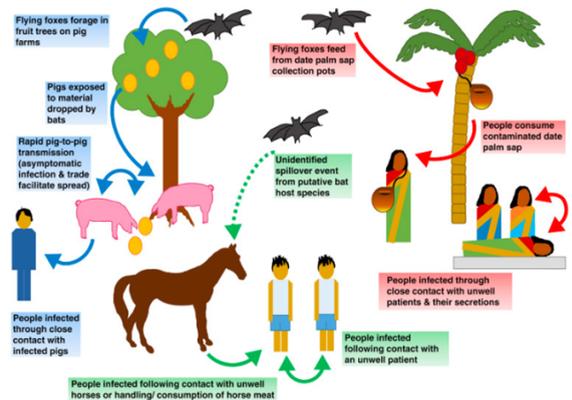


Fig.3. Nipah Virus (NiV): Spread, Prevention & Treatment.

CRIMEAN CONGO HEMORRHAGE:

Crimean-Congo hemorrhagic fever (CCHF) virus is a member of the genus *Nairovirus* in the family *Bunyaviridae*. CCHF is a tick-borne infection, enzootic in livestock in the Middle East, Asia and Africa, and is also recognized in southeast Europe. Transmission to humans via tick bite or by contact with blood or tissues from infected animals or patients results in hemorrhagic fever [5,7,9].

CCHFV is a member of the *Nairovirus* genus of the *Bunyaviridae* family; this family is made up of tickborne viruses. CCHFV is the prototype of the CCHF serogroup, which also includes the Hazara virus; the Hazara virus has not been demonstrated to cause disease in human.

Humans acquire infection from tick bites, or from contact with infected blood or tissues from livestock or human patients. After incubation humans can develop a severe disease with a prehaemorrhagic phase, a haemorrhagic phase, and a convalescence period. Haemorrhagic manifestations can range from petechiae to large haematomas [10]. Bleeding can be observed in the nose, gastrointestinal system, uterus and urinary tract, and the respiratory tract.

EBOLA:

The Ebola virus epidemic burst in West Africa in late 2013. Guinea and

Liberia, the first nations affected by the outbreak, have put in place measures to contain the spread, supported by international organizations and then they were followed by the other nations affected. Hemorrhagic fever caused by Ebola viruses (EVD, Ebola Virus Disease) is one of the most serious viral diseases.

Ebola virus disease (EVD) is a severe, often fatal illness in humans. EVD outbreaks have a case fatality rate of up to 90%.

Ebola Virus Disease is among the deadliest viral diseases. Ebola virus disease (EVD) is among the most virulent viral infections caused by the Ebola virus, with mortality rates nearing 90%.

The field of Ebola vaccine development has progressed over the years with numerous candidates in advanced stages of clinical development. Currently, there is no licensed vaccine against Ebola virus [11,12].

#### ACKNOWLEDGEMENT:

I am thankful to the Prasad Institute of Technology, (PIT), Jaunpur for providing infrastructure for doing this work and valuable support for review the literature in preparing this review article.

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