EDITORIAL

The Hemorrhagic Fever: Ebola and Other Viruses

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Presently, Ebola epidemic in West Africa emphasizes an immediate need to update management guidelines of viral hemorrhagic fever and develop new vaccines and treatments. Already, there are reports of an experimental monoclonal antibody being prepared and administered in two American healthcare workers who recently acquired Ebola virus infection in Liberia.[1] The World Health Organization (WHO) is closely monitoring the evolving Ebola outbreak in Guinea, Liberia, and Sierra Leone and has now declared public health emergency.[2]

The viral hemorrhagic fevers (VHFs) are diverse group human illnesses that are caused by four distinct families of RNA viruses; these are Arenaviridae, Filoviridae, Bunyaviridae, and Flaviviridae.[3] Important examples of these pathogens are; Dengue virus, Ebola virus, Lassa virus, Crimean-Congo, Marburg virus, and newly discovered Lujo virus. These viruses are usually transmitted by direct contact with infected blood or other body secretions rather than being airborne.[4] The severity and clinical presentation of viral hemorrhagic fever may significantly vary according to several different factors related to the strain of the causative agent, and the host epidemiological and clinical features. Most of them have high mortality rates, difficult to diagnose early and no specific treatments or vaccines are available so far.[5]

The term viral hemorrhagic fever (VHF) was first used in the early 1950s to designate an illness that occurred sporadically among soldiers fighting in the Korean War. That disease, now called hemorrhagic fever with renal syndrome, results from exposure to the excretions of hantavirus-infected rodents. Over subsequent decades, a number of additional viral infections, ranging from the ancient plague of yellow fever to the newly discovered New World disease of Hantavirus pulmonary syndrome, have been found to fit the criteria for viral hemorrhagic fever VHF.[6]

The initial clinical presentation is non-specific, so viral hemorrhagic fever should be considered in any patient with a history of sudden onset of fever, malaise, body aches and a variety of other nonspecific symptoms, which are followed over a period of days by the development of coagulation defects that can result in bleeding and an increase in vascular permeability, leading to a fall in blood pressure, shock and death.[6] Travel history is another important aspect that patients of viral hemorrhagic fever often present. Although most febrile travelers returning from endemic areas will have other infections, such as malaria, which also need rapid diagnosis and management.[4]

The cases of viral hemorrhagic fever are rare in Pakistan. Most of the reported cases are predominantly related to Dengue and Crimean-Congo virus infections. The two differs in terms of their vector and transmission.[7] Furthermore, these diseases differ from other infections such as influenza or severe acute

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respiratory syndrome because patients with viral hemorrhagic fever are not infectious until they develop symptoms.[4]

There is no specific treatment of viral hemorrhagic fever. The key to management is; early detection and isolation of cases, use of personal protective equipment, and administration of supportive medical care to reduce mortality. In the light of emerging Ebola crisis, Advisory Committee on Dangerous Pathogens (ACDP) of UK has revised the Guidance on management of viral hemorrhagic fever.[4]

The updated guideline includes flow diagrams, tables, and technical appendices that provide specific information on the assessment of exposure risk, management of patients, and all aspects of infection control. The revised guideline recommends that patients with suspected viral hemorrhagic fever should be first identified and isolated until the results of specific investigations are obtained from reference laboratories, which may take up to 24 hours. In the mean time, it is important the diagnosis and treatment of more common diseases, such as malaria or typhoid, should be started. A similar approach is followed in the United States and other European countries.[4]

Unfortunately, routine lab investigations in patients with a suspected viral hemorrhagic fever were delayed in the past due to safety concerns. The updated protocol acknowledges that it is safe to perform these tests locally to support clinical management while awaiting the results of specific diagnostic tests.[8] To yield best results, the new guidance must be supported by the training of medical, nursing, and laboratory staff in risk assessment, universal precautions, and the use of personal protective equipment.

The recently updated international guidelines comprehensively provides that health care professionals must be well informed to take appropriate travel history from all patients with hemorrhagic fever. They should perform a more specific risk assessment for patients returning from areas endemic for these diseases. Furthermore, basic lab investigations and management must be initiated, while the specific diagnostic test are awaited.

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