

DENGUE AND ITS CHALLENGES

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Dengue is not a new disease, it has reemerged in the past 20 years with an expanded geographic distribution of both the viruses and the mosquito vectors, increased epidemic activity, the development of hyperendemicity and the emergence of dengue hemorrhagic fever in new geographic regions. In 1998 this mosquito-borne disease was the most important tropical infectious disease after malaria, with an estimated 100 million cases of dengue fever, 500,000 cases of dengue hemorrhagic fever, and 25,000 deaths annually.¹ The reasons for this resurgence and emergence of dengue hemorrhagic fever in the waning years of the 20th century are complex and not fully understood, but demographic, societal, and public health infrastructure changes in the past 30 years have contributed greatly. Dengue is a common arboviral infection with a diverse spectrum of clinical manifestations. Dengue hemorrhagic fever is a more severe form of infection characterized by plasma leak and hemoconcentration. Although hepatic dysfunction is common in dengue illness, massive liver necrosis is rarely reported.² Lactic acidosis is a poor prognostic marker in liver failure related to dengue. Management of acute renal injury in dengue hemorrhagic fever due to prolonged shock is challenging as the fluid reabsorption during the recovery phase expands the intravascular volume and precipitates heart failure and pulmonary edema. Dengue fever is characterized by its clinical polymorphism ranging from asymptomatic to severe forms, which are rare in travelers. Its definite diagnosis is based on virological tests selected according to the stage of the disease and the kinetics of the virus.

Several attempts in developing an effective vaccine to protect individuals from dengue infection and the stage of clinical trials are gathered in the present work as well. It has 4 serotypes of epidemiological importance. The classification denotes two clinical spectrums- dengue fever (DF) and dengue haemorrhagic fever (DHF). Most cases are stereotype and amenable to fluid resuscitation. Dengue is an

extremely challenging infection to treat in the globe today.³ Unusual presentation and complications could be fatal, if not detected early where therapeutic window period is very short. Clinicians need awareness of these problems which are not uncommon, but underreported and often overlooked. Dengue virus infection is now a global problem affecting tens of millions of people.⁴ The spread of the four dengue virus serotypes had led to increased incidence of dengue haemorrhagic fever (DHF) reported and with 2.5 billion people at risk, efforts towards the development of safe and effective vaccines against dengue must be accelerated.⁵

The possible reasons for rapid deterioration and deaths in recent dengue outbreak could be multi factorial. First, due to global warming and change in climatic conditions, the disease severity and rapid progression might have changed. Second, may be due to heavy burden of disease in this season, early warning signs in some patients might have been missed in the initial screening and triage of febrile patients leading to dehydration and then rapid deterioration. Third, in young patients as reported in some studies, there may be an exaggerated immune response which can be confirmed by tests such as IL-6 and serum ferritin levels. Fourth, the patients could have a possible second exposure, which can lead to a fatal outcome as reported in many studies.^{6,7} However some studies conclude that primary infection can have high mortality than secondary infections.^{8,9} Fifth, some patients might have a high viral load leading to fatal outcome as shown in many studies.^{10,11}

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