
Students' Corner

Letter to the Editor

The routine epidemics of dengue and our role in management

Madam, around 40% of the world's population, an approximate of 2.5 billion people, is at a brink of acquiring dengue infections. With its changing epidemiology, it continues to be endemic in over hundred countries today.¹ In underdeveloped tropical countries like Pakistan, due to unprecedented population growth, unstructured urbanization and failures of municipal strategies, the epidemics prove to be serious threat to public health.

Advancing geographically from Southeast Asian countries, the first confirmed outbreak of dengue fever was reported in Pakistan in the year 1994.² Thereafter, this menace has acquired many lethal epidemics, with changing serotypes and demographic features. Sporadic cases of dengue haemorrhagic fever have prevailed in different regions of the country, and during 2005-06, dengue viral infection acquired its most severe outbreak, confirming 40 deaths and more than 4,800 victims.³ Various studies from Pakistan have stated post-monsoon season to report the highest number of cases.^{2,3} The year 2010 epidemic reached new horizons with above 5000 cases confirmed by electronic media, and death toll on the rise.⁴ DV-3 was identified as the causative agent, a serotype introduced in the population in the previous outbreak. This highlights that the serological subtypes of dengue virus have changed overtime, from DV-1 and DV-2 in the first epidemic to DV-3 in the recent outbreak.² Lately, major hospitals of metropolitan cities have been in control of patients inflicted with dengue.⁴

Generally, dengue presents as non-specific fever which settles without aggressive intervention. However, it can acquire its more severe forms, dengue haemorrhagic fever (DHF) and dengue shock syndrome (DSS), which can eventually lead to death. The signs and symptoms highly vary with age and gender, and generally include high grade pyrexia for 2-7 days, headache, muscle and joint pain, abdominal pain, exhaustion, nausea and/or vomiting, melaena, ecchymosis, nose and/or gums bleeds and signs of shock.⁵

Early identification and effective management of the

disease has shown to lower the risk of developing severe disease course. Currently only symptomatic treatment is available. Steroids and antiviral medications have not proven to be effective, while aspirin or other NSAIDs (Non-Steroidal Anti Inflammatory Drugs) may increase the bleeding tendencies. The initial management includes prescription of acetaminophen (paracetamol) for fever and pain rather than other antipyretics and pain killers. Haemo-concentration can lead to deterioration progressing towards Disseminated Intravascular Coagulation (DIC). Hence, ample fluid administration is mandatory. Furthermore, if the levels of platelets drop to significant levels that cause symptoms, platelets are to be infused to prevent bleeding. However, different medical setups have different cut off values for platelet administration. The South-East Asia Region (SEAR) of WHO, although shows a continuous increase in the prevalence of this virus, has estimated the case fatality rate to come down from 5% to about 2% due to improved management and hospital care.⁵

The availability of dengue vaccination to general population is not expected to be available for at least another decade, despite the ongoing research trials. Hence without a definitive therapeutic treatment and vaccination, the first-line "therapy" is prevention. Eradication of the day-biting dengue carrying mosquitoes, *Stegomyia aegypti* (formerly *Aedes*), or *Stegomyia albopictus*, and avoidance of their breeding, is the most essential step in prevention. Although not fatal for every victim, dengue may greatly influence one's communal and economical life. Therefore it is important to take measures on a national level to review the preventive strategies in order to lower down the cost of health expenses along with reduction in mortality and morbidity caused by dengue epidemics.

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