

Dengue infection severity score – improvised disease management

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Dear editor

We would like to add our views regarding the paper “Validation of Dengue infection severity score” by Pongpan et al.¹ As the paper outlines, the purpose of the Dengue Severity Score is to classify individuals with dengue infection into three levels of severity with clinically acceptable underestimation or overestimation.

Dengue virus is transmitted by Aedes mosquitoes, which are sensitive to various environmental conditions including temperature, rainfall, and humidity. These factors are critical to mosquito reproduction and survival, for example, higher temperatures decrease the time required for virus replication and dissemination in the Aedes mosquito.² The incidence of dengue doubles every decade, it increased from 8.3 million apparent cases in 1990 to 58.4 million apparent cases in 2013.³ Although it is a preventable disease, dengue still has an estimated mortality rate of 20,000 people per year.² The clinical presentation of dengue infection is characterized by fever, headache, vomiting, muscle and joint pain, as well as rash on the skin. Complicated cases may result in hemorrhagic fever, thrombocytopenia, shock, and death.

The World Health Organization classification of dengue fever (2009) includes two separate entities, namely, dengue and severe dengue; however, this has yet to be proven as clinically significant. Very few studies are available, and of them, most are at a secondary or tertiary level of care and not at the level of primary care. Most studies are not carried out in resource-poor settings.⁴ This World Health Organization gross classification is not practical since dengue epidemic affects a wide range of age groups and manifests as different clinical presentations globally, thus adding diversity to disease spectrum.⁵

Dengue infection severity score is a handy assessment tool; prerequisite information required for this include patients’ clinical data consisting of their medical history, recorded vitals, complete blood count, history of bleeding episodes with results of tourniquet tests, and recent incidents of plasma leakage determined by assessing hemoconcentration, which shows a 20% increase in hematocrit. In our opinion, utilizing the clinical data in the scoring system would allow for more efficient and cost-effective patient care and may minimize unnecessary hospitalization as patients with a low score are suspected to have dengue fever and could be examined and treated as outpatients, while those with a greater score are suspected of dengue hemorrhagic fever and could be admitted in the hospital. Finally, those with the greatest score, likely to have dengue shock syndrome, could be admitted for immediate monitoring in an intensive care unit.

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We suggest that the scoring system should be made widely applicable to effectively manage the ongoing changes being currently observed in the virulence factors of dengue virus, for example, a fifth serotype DENV-5 recently discovered in 2015, has been shown to have caused frequent epidemics and life-threatening mortalities.⁵ We recommend this resourceful and impactful scoring system for efficient hospital care and management of dengue patients.

Disclosure

The authors report no conflicts of interest in this work.

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