Dengue Shock Syndrome or Dehydration? The Importance of Considering Clinical Severity When Classifying Patients With Dengue

To the Editor—In a recent issue of *Clinical Infectious Diseases*, Lam et al reported the outcome of 1719 children admitted over a 10-year period and diagnosed with dengue shock syndrome (DSS) [1]. Patients were described as having had a severe clinical presentation resulting from plasma leakage and pulse pressure ≤20 mm Hg. The definition of DSS used was the 1997 World Health Organization (WHO) definition regarding pulse pressure and hematocrit determinations. However, other diagnostic procedures, such as laboratory tests for liver and renal function, coagulation, and acid-base determination, and the detection of serous effusion by imagery, were not completed in many patients. Finally, as stated by the authors, the main inclusion criterion was evidence of impaired perfusion “thought by the treating clinician to be due to vascular leakage and to require volume resuscitation.” In this series, most patients recovered within a few hours with a single infusion of saline and only 8 patients died, resulting in the lowest case-fatality rate in hospitalized dengue patients ever reported in Southeast Asia [2, 3]. Although the rapidity and quality of treatment are key factors in determining the chances of recovery, one can question the representativeness of this group of patients reported as having DSS. It is reasonable to suspect that many of these patients were not actually in shock, and that many patients with a straightforward dehydration associated with the febrile phase of the disease were included in a group of patients diagnosed with a severe plasma leakage. The issue is important when it comes to the inclusion of patients in clinical trials [4].

Describing the clinical forms of dengue is difficult because of the diversity and overlapping nature of the clinical manifestations. The frequency of any given category of patients in a cohort may be confounded by selection bias, and by the misuse of medical terms such as “hemorrhage” in patients who do not have clinically significant bleeding, or “shock” in patients with transient hypotension. Based on our clinical experience of severe dengue in adults [5] and field epidemic experiences in Martinique and in Cape Verde, the 2009 WHO guideline that includes warning signs may be of value for the triage of patients by field clinicians. However, many patients with warning signs do not develop severe disease. Specifically, hypotensive patients who improve dramatically within a few hours with an infusion of saline represent a significant category of intermediate severity that do not deserve to be classified in the same group as that of patients in shock [6]. To meet the requirements of representativeness, consistency, and comparability, the description of the severe forms of dengue should include an assessment using an...
internationally validated severity scoring system, such as the Simplified Acute Physiology Score [7] or the Sepsis-Related Organ Failure Assessment score [8], together with indisputable diagnostic features of plasma leakage.

Note

Potential conflicts of interest. All authors: No reported conflicts. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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Clinical Infectious Diseases 2014;58(7):1038–9 © The Author 2014. Published by Oxford University Press on behalf of the Infectious Diseases Society of America. All rights reserved. For Permissions, please e-mail: journals.permissions@oup.com. DOI: 10.1093/cid/ciu014