

Dengue054- Accuracy of the Brazilian Ministry of Health clinical definition of suspected classic dengue fever

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Introduction: The Brazilian Ministry of Health (MS) definition for cases suspected of classic dengue fever is simple and widely used for surveillance purposes, but its accuracy has not been widely evaluated. We examined the validity of the MS clinical case definition for classic dengue fever in an urgent-care setting. **Materials and Methods:** From April 2009 to March 2011, we conducted surveillance for acute febrile illness at an urgent care center in the slum community of Pau da Lima in Salvador, Brazil. Patients who presented with a ≤ 7 day history of fever were interviewed to obtain sociodemographic data and clinical history, including the symptoms listed in the MS definition of suspected dengue fever (presence of any two of the following symptoms: headache, retro-orbital pain, myalgia, arthralgia, prostration, and exanthema). Acute and convalescent-phase blood samples were collected; any patient with a positive NS1 antigen acutely or IgM or IgG seroconversion between acute and convalescent samples was defined as confirmed dengue. Receiver operating characteristic curves were constructed to evaluate the validity of clinical diagnostic algorithms compared with laboratory diagnosis of dengue. **Results:** We identified 2768 patients with febrile illness and collected acute and convalescent-phase blood samples from 2355 (85%) patients. Among those with paired sera, 521 (22%) had laboratory-confirmed dengue. Among patients with dengue, 84% reported headache, 82% experienced prostration, 72% had myalgias, 50% had retro-orbital pain, 44% had arthralgias and 21% experienced exanthema. We found that the MS criterion had a sensitivity of 91% (95% CI: 88.6-93.5%), a specificity of 14% (12.5-16.0%), a positive predictive value of 26% (24.6-28.7%), and a negative predictive value of 83% (77.8-86.9%). We also tested the performance of modified MS criteria. Each additional symptom required to define suspected dengue successively increased specificity at the cost of sensitivity (AUC=0.53, 95% CI 0.52-0.55%). Using the most stringent criteria (need of all 6 symptoms for diagnosis of dengue), the specificity improved to 97% (96.3-98.0%), but the positive predictive value remained low at 41% (30.2-52.5%). **Conclusion:** The results of this study show that the case criterion used by the MS to define a suspected case of dengue fever has good sensitivity but low specificity. Health professionals should be aware of the epidemiological patterns within their community and employ laboratory testing for dengue to improve diagnostic accuracy. **E-mail:** monaisemadalena@hotmail.com