Abstract

Objective The Flavivirus genera share epitopes inducing cross-reactive antibodies leading to great difficulty in differentially diagnosing flaviviral infections. This work was aimed at evaluating the complexity of dengue and yellow fever serological differential diagnosis. Material and methods Dengue antibody capture ELISA and a yellow fever neutralisation test were carried out on 13 serum samples obtained from yellow fever patients, 20 acute serum samples from dengue patients and 19 voluntary serum samples pre- and post-vaccination with YF vaccine. Results Dengue ELISA revealed IgM reactivity in 46.2 % of yellow fever patients and 42 % of vaccinees. Sixteen out of 20 dengue patients (80 %) had high YF virus neutralisation titres. Conclusions. Such very high cross-reactivity data challenged differential laboratory diagnosis of dengue and yellow fever in areas where both flaviviruses co-circulate. New laboratory strategies are thus needed for improving the tests and providing a specific laboratory diagnosis. Cross-reactivity between Flaviviruses represents a great difficulty for epidemiological surveillance and preventing dengue, both of which demand urgent attention.

Keywords

Dengue, yellow fever, flavivirus, differential diagnosis (source: MeSH, NLM).