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Accuracy of a Commercial IgM ELISA for the Diagnosis of Human Leptospirosis in Thailand

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Abstract.

The *Leptospira* immunoglobulin M enzyme-linked immunosorbent assay (IgM ELISA) has been recommended for the rapid diagnosis of leptospirosis in endemic areas. We conducted a retrospective case-control study of 218 patients (109 leptospirosis cases confirmed by *Leptospira* culture and/or microscopic agglutination test and 109 control patients with acute febrile illness) to evaluate the diagnostic accuracy of a commercial IgM ELISA (Panbio) in northeast Thailand. Paired serum samples taken on admission and at least

10 days after the onset of symptoms were tested. Using the cutoff value recommended by the manufacturer (11 Panbio units), sensitivity and specificity of IgM ELISA on paired sera were 90.8% and 55.1%. A receiver operating characteristic curve was used to determine the optimal cutoff value. This was 20 Panbio units, which gave a sensitivity and specificity of 76.1% and 82.6%, respectively, on paired sera. We conclude that using either cutoff value, the accuracy of IgM ELISA is limited in our setting.

Disclaimer: The authors have no conflict of interest. The Panbio Leptospira IgM ELISA kits were provided without charge by Panbio Pty, Ltd., Queensland, Australia. The company has no role in the study design, data collection and analysis, interpretation of results, and writing or submission of this manuscript.

Footnotes

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