Abstract

Background

Leptospirosis is endemic in both urban and rural areas of Sri Lanka and there had been many out breaks in the recent past. This study was aimed at validating the leptospirosis surveillance case definition, using the Microscopic Agglutination Test (MAT).

Methods

The study population consisted of patients with undiagnosed acute febrile illness who were admitted to the medical wards of the Teaching Hospital Kandy, from 1st July 2007 to 31st July 2008. The subjects were screened to diagnose leptospirosis according to the leptospirosis case definition. MAT was performed on blood samples taken from each patient on the 7th day of fever. Leptospirosis case definition was evaluated in regard to sensitivity, specificity and predictive values, using a MAT titre $\geq$ 1:800 for confirming leptospirosis.

Results

A total of 123 patients were initially recruited of which 73 had clinical features compatible with the surveillance case definition. Out of the 73 only 57 had a positive MAT result (true positives) leaving 16 as false positives. Out of the 50 who didn't have clinical features compatible with the case definition 45 had a negative MAT as well (true negatives), therefore 5 were false negatives. Total number of MAT positives was 62 out of 123. According to these results the test sensitivity was 91.94%, specificity 73.77%, positive predictive value and negative predictive values were 78.08% and 90% respectively. Diagnostic accuracy of the test was 82.93%.

Conclusion

This study confirms that the surveillance case definition has a very high sensitivity and negative predictive value with an average specificity in diagnosing leptospirosis, based on a MAT titre of $\geq$ 1: 800.