

Abstract

Background

Leptospirosis has a varied clinical presentation with complications like myocarditis and acute renal failure. There are many predictors of severity and mortality including clinical and laboratory parameters. Early detection and treatment can reduce complications. Therefore recognizing the early predictors of the complications of leptospirosis is important in patient management. This study was aimed at determining the clinical and laboratory predictors of myocarditis or acute renal failure.

Methods

This was a prospective descriptive study carried out in the Teaching Hospital, Kandy, from 1st July 2007 to 31st July 2008. Patients with clinical features compatible with leptospirosis case definition were confirmed using the Microscopic Agglutination Test (MAT). Clinical features and laboratory measures done on admission were recorded. Patients were observed for the development of acute renal failure or myocarditis. Chi-square statistics, Fisher's exact test and Mann-Whitney *U* test were used to compare patients with and without complications. A logistic regression model was used to select final predictor variables.

Results

Sixty two confirmed leptospirosis patients were included in the study. Seven patients (11.3%) developed acute renal failure and five (8.1%) developed myocarditis while three (4.8%) had both acute renal failure and myocarditis. Conjunctival suffusion - 40 (64.5%), muscle tenderness - 28 (45.1%), oliguria - 20 (32.2%), jaundice - 12 (19.3%), hepatomegaly - 10 (16.1%), arrhythmias (irregular radial pulse) - 8 (12.9%), chest pain - 6 (9.7%), bleeding - 5 (8.1%), and shortness of breath (SOB) 4 (6.4%) were the common clinical features present among the patients. Out of these, only oliguria {odds ratio (OR) = 4.14 and 95% confidence interval (CI) 1.003-17.261}, jaundice (OR = 5.13 and 95% CI 1.149-28.003), and arrhythmias (OR = 5.774 and 95% CI 1.001-34.692), were predictors of myocarditis or acute renal failure and none of the laboratory measures could predict the two complications.

Conclusions

This study shows that out of clinical and laboratory variables, only oliguria, jaundice and arrhythmia are strong predictors of development of acute renal failure or myocarditis in patients with leptospirosis presented to Teaching Hospital of Kandy, Sri Lanka.

Keywords: Myocarditis, Acute renal failure, Leptospirosis