TITLE: EVALUATION OF SAMPLES OF PATIENTS WITH SUSPECTED LEPTOSPIROSE AND DENGUE

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ABSTRACT:

Leptospirosis is a worldwide zoonosis, with epidemic potential, caused by pathogenic species of the genus *Leptospira* spp. Laboratory diagnosis of human leptospirosis is based mainly on serological tests, such as the ELISA IgM and the microscopic agglutination test (MAT). MAT is considered the gold standard test, recommended by World Health Organization (WHO) and provides the probable infecting serogroup. A diagnosis of leptospirosis is confirmed by a 4-fold increase in titer between two serum samples tested in the MAT. The clinical presentation can range from mild manifestations to severe disease states with pulmonary hemorrhage, renal failure and death. The wide range of symptoms may mimic other diseases, such as dengue and the correct diagnosis is important to prevent severe and fatal cases. Usually, the peak incidence of both leptospirosis and dengue occurs during the rainy season. Sera from patients investigated for dengue and leptospirosis were analyzed retrospectively to determine the extent of misdiagnosis. A total of 826 samples of patients with serology for leptospirosis and dengue fever were evaluated between January 2014 and April 2015. Of these patients, 440 (53.2%) samples were negative for both leptospirosis and dengue, and 272 (32.9%), positive only for dengue. The remaining 114 patients (13.8%) were positive for leptospirosis and of these, 19 were positive for both leptospirosis and dengue. Leptospirosis was confirmed by MAT in 14 (1.7%) of 826 patients. Among these, Icterohaemorrhagiae was considered the probable infecting serogroup in 11 cases, while the other 3 was considered inconclusive. Among the 14 patients confirmed by MAT, 12 samples were negative for dengue and two were positive. The probable infecting serogroup in these cases was Icterohaemorrhagiae. As the symptoms of leptospirosis and dengue may be non-specific, laboratory diagnosis is essential for the management of these diseases, although the serology may eventually present cross-reactivity.

Keywords: Leptospirosis, Dengue, serology

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