

Original Paper

Isolation and Serotyping of endemic leptospires of eastern part of flat area of Guilan province, Iran

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Abstract

Background and Objective: Leptospirosis is a zoonosis that is more common in tropical and semitropical regions and is endemic in Guilan province. In endemic region, only a limited number of pathogenic serovars are common, characterization of them is very important step in detecting the main reservoir(s) of the disease. This study was performed to isolate leptospires from rice farms, irrigation canals and rivers of eastern part of flat area of Guilan province to detect main endemic serotypes of leptospirosis.

Materials and Methods: In this descriptive and cross – sectional study samples were taken from 8 cities of the area of Guilan province, North of Iran between May to September of 2007. Two ml of any processed water sample was inoculated in liquid EMJH medium with 200µg/ml 5-fluorouracil after filtration, were incubated in 30°C for 3 months, and were checked by darkfield microscopy every two weeks. All positive samples were serotyped by using 30 type antisera which were main representative of serogroups.

Results: 47 of 320 specimens were positive and 273 samples were negative. One saprophytic species (*Biflexa*) including two serogroups (*Andamana*, and *Semaranga*) and three pathogenic species (*Interrogans*, *Kirschnerii*, and *Boirgpetersenii*) including 6 serogroups were detected. *Icterohaemorrhagiae*, *Pomona*, and *canicola* of *interrogans*, *Hardjobovis* and *Sejroea* of *Borgpeterseni* species, *Grippityphosa* of *Kirschnerii*. Non-pathogenic serogroups were found from surface water, but the pathogenic serogroup were detected only from rice farm water.

Conclusion: The high incidence of leptospirosis in rural area coincide with seasonal rice cultivation, which can be due to traffic of domestic animal in rice farms and elevation temperature, and activity of rice farm water with subsequent presence of pathogenic type and serotypes in rice farm.

Keywords: Leptospires, Water, Rice Farm, Iran

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