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Antimicrobial Susceptibility of Brucella melitensis Isolates from Blood Samples

Ergin AYAŞLIOĞLU[1], Selçuk KILIÇ[2], Kemalettin AYDIN[3], Dilek KILIÇ[1], Sedat KAYGUSUZ[1], Canan AĞALAR[1]

[1]Department of Infectious Diseases and Clinical Microbiology, Faculty of Medicine, Kırıkkale University, Kırıkkale - TURKEY

[2]Department of Communicable Diseases Research, Refik Saydam National Hygiene Center, Ankara - TURKEY

[3]Department of Infectious Diseases and Clinical Microbiology, Faculty of Medicine, Karadeniz Technical University, Trabzon - TURKEY

Abstract: Aim: Brucellosis is a worldwide zoonotic disease that remains an important public health problem in rural Turkey. The aim of the present study was to identify Brucella species and biotypes, and to assess the antimicrobial susceptibility of isolates from blood samples. Materials and Methods: The study included 46 Brucella isolates from the Kırıkkale region of central Anatolia. The identification and biotyping of the isolates were based on conventional methods. The minimal inhibitory concentration (MIC) values of tetracycline, rifampin, streptomycin, ciprofloxacin, and azithromycin were determined using the E test method. Results: All isolates were identified as B. melitensis (45 isolates, biotype-3) and were sensitive to tetracycline, streptomycin, ciprofloxacin, and azithromycin. In all, 2 isolates showed intermediate sensitivity to rifampin, whereas the others were sensitive. MIC_{90} values of tetracycline, streptomycin, rifampin, ciprofloxacin, and azithromycin were 0.25 mg/l, 0.50 mg/l, 1.0 mg/l, 0.25 mg/l, and 1.0 mg/l, respectively. Conclusions: In recent years there has been tremendous interest in the identification of Brucella strains and their antimicrobial susceptibility. According to antimicrobial susceptibility test results, none of the isolates in the Kırıkkale region of Turkey were resistant to the currently recommended antibiotics. The present study´s findings were discussed along with a brief review of similar studies from Turkey.

Key Words: Brucellosis, tetracycline, streptomycin, rifampin, ciprofloxacin, azithromycin

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