

عنوان مقاله:

Species-specific PCR for the Diagnosis and Determination of Antibiotic Susceptibilities of Brucella Strains Isolated from Tehran, Iran

محل انتشار:

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خلاصه مقاله:

Background: Brucellosis is an endemic zoonotic disease in the Middle East. This study intended to design a uniplex PCR assay for the detection and differentiation of Brucella at the species level and determining the antibiotic susceptibility pattern of Brucella in Iran. Methods: Sixty-eight Brucella specimens (38 animal and 30 human specimens) were analyzed using PCR (using one pair of primers). Antibiotic susceptibility patterns were evaluated and compared using the E-Test and disk diffusion susceptibility test. Tigecycline susceptibility pattern was compared with other antibiotics. Results: Thirty six isolates of *B. melitensis*, 2 isolates of *B. abortus* and 1 isolate of *B. suis* from the 38 animal specimens, 24 isolates of *B. melitensis* and 6 isolates of *B. abortus* from the 30 human specimens were differentiated. The MIC₅₀ values of doxycycline for human and animal specimens were 125 and 10 µg/ml, respectively, tigecycline 0.064 µg/ml for human specimens and 0.125µg/ml for animal specimens, and trimethoprim/sulfamethoxazole and ciprofloxacin 0.065 and 0.125µg/ml, respectively, for both human and animal specimens. The highest MIC₅₀ value of streptomycin in the human specimens was 0.5µg/ml and 1µg/ml for the animal specimens. The greatest resistance shown was to tetracycline and gentamicin, respectively. Conclusion: Uniplex PCR for the detection and differentiation of Brucella at the strain level is faster and less expensive than multiplex PCR, and the antibiotics doxycycline, rifampin, trimethoprim-sulfamethoxazole, ciprofloxacin, and ofloxacin are the most effective antibiotics for treating brucellosis. Resistance to tigecycline is increasing, and we recommend that it be used in a combination regimen.

کلمات کلیدی:

Uniplex PCR, Brucella, Antibiotic Susceptibilities, Tigecycline

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