عنوان مقاله:

Molecular Detection of Infectious Endocarditis (Bartonella quintana) Bacteria from Selected Military Hospitals

محل انتشار:

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خلاصه مقاله:

Background and Aim: Bartonella quintana is an aerobic, gram-negative, rod-shaped, and polar bacterium. Detection of this bacterium is done through blood culture in an agar medium, and the longtime of detection by culture has made molecular methods such as PCR important for more accurate and faster detection. Materials and Methods: For this reason, ۱۰۰ cultured negative endocarditis specimens were collected in this study. DNA extraction was performed from B. quintana, and the concentration and quality of the obtained DNA were measured. PCR reaction was performed on the genome of negative control samples. To clone a portion of the amplified gene in PUC ۱۸ plasmid, the PCR product was first purified. After ligation, JM۱۰۷ E. coli susceptible to calcium chloride was used. Transformed bacteria were cultured on LB Broth medium containing Ampicillin antibiotic. Then ۲ to ۳ white colonies were selected, and PCR was performed. Plasmid extraction was performed after confirming the presence of recombinant and inserted plasmids. Results: The last dilution of PUC۱۸ plasmid for B. quintana with an initial concentration of ۷۸۰ ng/µL, which formed a detectable band on the gel, was calculated to be ۱۰-۷, and the minimum number of detectable copies in a ۲۵ µL PCR reaction equal to ۲۴ copies. . In quantitative DNA analysis, its amount was calculated between ۱.۶۹ and ۱.۸. Conclusion: The collected samples were then examined for the presence of B. quintana in patients. Of the ۶۰ samples collected, none were positive.

کلمات کلیدی:

Bartonella quintana, Gram-negative aerobic bacteria, Molecular detection, PCR,
بارتونلا کوینتانا, باکتری هوازی گرم منفی, تشخیص مولکولی, PCR