

Evaluate Antimicrobial Effect of Lactobacillus Gasseri on Pseudomonas Aeruginosa Isolated from Clinical Samples of Burn Patients

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ABSTRACT

Background: Pseudomonas aeruginosa is widely distributed in nature and is considered as an opportunist pathogen for human. Increase in anti-biotic resistance and the emergence of treatment resistant strains is one of the most important challenges in treatment of Pseudomonas aeruginosa infections in burn patients. This study aims to evaluate the antimicrobial effect of Lactobacillus gasseri on Pseudomonas aeruginosa isolated from clinical samples of burn patients.

Material and Methods: Samples were collected from burn patients in Motahari hospital/Tehran during 6 months. The isolated strains were identified using differentiation and biochemical tests . Fifty strains of Pseudomonas aeruginosa were isolated from a total of 78 samples (64.10%). In order to determine the resistance of these strains, antibiotic susceptibility test was performed using Kirby-Bauer disk diffusion method according to CLSI standard. The antimicrobial effect of Lactobacillus gasseri was evaluated by agar well and disk diffusion methods.

Result: Most strains showed high resistance to the common antibiotics but showed considerable sensitivity to the supernatant of Lactobacillus gasseri. The mean growth inhibition zone of Lactobacillus gasseri is more than colistin and from statistic point of view this deference is meaningful ($p < 0.05$) .This study showed that the use of Lactobacillus gasseri has significant inhibitory effect on multi drug resistant strains of Pseudomonas aeruginosa.

Conclusion: These results indicate that Lactobacillus gasseri and/or its by-products are potential therapeutic agents for the local treatment of Pseudomonas aeruginosa burn infections.

Keywords: Pseudomonas Aeruginosa, Multidrug Resistant, Lactobacillus Gasseri, Antimicrobial Effect

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