Antagonistic Potential against Pathogenic Microorganisms and Hydrogen Peroxide Production of Indigenous Lactobacilli Isolated from Vagina of Chinese Pregnant Women

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Objective To investigate the indigenous lactobacilli from the vagina of pregnant women and to screen the isolates with antagonistic potential against pathogenic microorganisms. Methods The strains were isolated from pregnant women’s vagina and identified using the API50CH system. The ability of the isolates to produce hydrogen peroxide was analyzed semi-quantitatively using the TMB-HRP-MRS agar. The antagonistic effects of the isolates on pathogenic microorganisms were determined with a double layer agar plate. Results One hundred and three lactobacilli strains were isolated from 60 samples of vaginal secretion from healthy pregnant women. Among them, 78 strains could produce hydrogen peroxide, in which 68%, 80%, and 88% had antagonistic effects against Candida albicans CMCC98001, Staphylococcus aureus CMCC26003, Escherichia coli CMCC44113, and Pseudomonas aeruginosa CMCC10101, respectively. Conclusion The recovery of hydrogen peroxide-producing lactobacilli decreases with the increasing pregnant age and time. The most commonly isolated species from vagina of Chinese pregnant women are Lactobacillus acidophilus and Lactobacillus crispatus. Most of L. acidophilus and L. crispatus produce a high H2O2 level.

Key words: Lactobacilli; H2O2; Pregnant women; Antagonistic; Pathogen

REFERENCES


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