ANTIBIOTIC SUSCEPTIBILITY OF POTENTIALLY PROBIOTIC HUMAN
FAECAL LACTOBACILLI

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Abstract: Bacteria of the genus Lactobacillus have been proposed as probiotic microorganisms to restore the ecological equilibrium of the gastrointestinal tracts (GIT). The aim of the present study is to determine the antibiotic susceptibility of six human faecal probiotic lactobacilli. The disc diffusion method was performed in Mueller Hinton, LAPtg and MRS agars by the NCCLS (National Committee for Clinical Laboratory Standards) procedure was performed. Due to the absence of a Lactobacillus reference strains, the results were compared to those of Staphylococcus aureus MTCC 740. Antibiotic sensitivity was determined with 12 different antibiotics in LAPtg agar, MRS agar and MHA. All human faecal Lactobacilli were sensitive to Chloramphenicol, Ciprofloxacin, Gentamicin, Lincomycin, Pefloxacin, Streptomycin, Intermediate to Kanamycin and resistant to Ampicillin. Lactobacillus plantarum (Hef24) and L. casei (Hef19) were found resistant to Vancomycin and Rifampicin. L. fermentum (Hef2), and L.plantarum (Hef4), were found intermediate resistant to Vancomycin. L. casei (Hef 19) is only exception that is resistant to Pefloxacin. L. plantarum (Hef 24) and L. casei (Hef 19) are only two strain resistant to Rifampicin. L. fermentum (Hef 3), L. plantarum (Hef 24) and L. casei (Hef 19) are three strain which are resistant to Vancomycin. The NCCLS method needs to be standardized in an appropriate medium to determine the antimicrobial susceptibility of Lactobacillus. Faecal probiotic lactobacilli do not display uniform susceptibility to antibiotics. Resistance to Ampicillin suggests that lactobacilli could be simultaneously used as a probiotic with Diarrheal treatment. However, the NCCLS procedure needs to be standardized for this genus.

Key words: Antibiotics, Lactobacilli, Probiotics.

REFERENCES


