

Antimicrobial Activity of Lactic Acid Bacteria Isolated from Camel Milk against Pathogenic Bacteria Isolated from Urinary Tract Infected Patients, Sudan

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ABSTRACT

This was a cross-sectional study carried out to isolate, identify and testing the antimicrobial activity of lactobacillus species against pathogenic bacteria. Three strains of Lactobacilli species (*Lactobacillus .acidipiscis*, *Lactobacillus rhamanosus* and *Lactobacillus.lactis subsp. hordinae*) were isolated from Camel milk, and 30 bacterial species were isolated from urinary tract infected patients by using various cultured media. Strains isolated were characterized by phenotypic, physiological and biochemical properties. Identification of Lactobacilli species was confirmed by sequencing of 16S rRNA gene. Well diffusion method was used for antimicrobial activity of Lactobacillus species and commonly used antibiotic, against pathogenic bacteria. Results showed that *Escherichia coli* was the most frequently isolated urinary pathogen 9 (30%) followed by *Klebsiella pneumoniae* 8 (26.7%), *Enterococcus faecalis* 6 (20%), *Staphylococcus aureus* 5 (16.7%), *Pseudomonas aeruginosa* 1 (3.3%) and *Proteus mirabilis* 1 (3.3%). Most of the isolated organisms were resistant to cotrimoxazole 24 (80%), norfloxacin 12 (40%), ciprofloxacin, nitrofurantoin 10 (33.3%) and chloramphenicol 10%. Four (13.3%) isolates of pathogenic bacteria were susceptible to *Lactobacillus.lactis subsp. hordinae* activity, followed by 2 (6.9%) isolates susceptible to *Lactobacillus rhamanosus* and 1 (3.3%) susceptible *Lactobacillus .acidipiscis*. *Lactobacillus.lactis subsp. hordinae* could be used for the treatment and prevention of multidrug resistant urinary tract infected bacteria.

Keywords: *lactobacilli, antimicrobial resistance, UTI and probiotic.*