Open Journal of Medical Microbiology, 2015, 5, 169-176
Published Online December 2015 in SciRes. http://www.scirp.org/journal/ojmm
http://dx.doi.org/10.4236/ojmm.2015.54021

Scientific Research Publishing

Isolation, Characterization and Antimicrobial Resistance Patterns of Lactose-Fermenter Enterobacteriaceae Isolates from Clinical and Environmental Samples

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Received 20 September 2015; accepted 23 November 2015; published 26 November 2015

Abstract

The lactose-fermenter Enterobacteriaceae are the most frequent cause of clinical infection in our country. The objective of this study was to isolate and identify the most common lactose-fermenter Enterobacteriaceae from clinical samples, including urine, blood, wounds, and sputum, obtained from the local hospital and from environmental samples from a chicken farm, agriculture soil, and water from the Tigris River in Baghdad City. The study also aimed at establishing the antibiotic resistance patterns of the isolated bacteria. A total of 155 bacterial isolates were identified from 10 genera according to the Vitek 2 system. The most common bacterial isolates from the clinical and environmental samples were *Escherichia coli* and *Klebsiella pneumoniae*, respectively. The antibiotic resistance patterns showed that all clinical and environmental isolates were multidrug resistant to *β*-lactam (except carbapenems) drug and aminoglycosides and more sensitive to carbapenems.

Keywords

Enterobacteriaceae, Lactose Fermenters, Clinical, Environmental Samples

1. Introduction

Enterobacteriaceae are distributed worldwide. They are found in soil, water, fruits, meats, eggs, vegetables,

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How to cite this paper: Ibrahim, I.A.J. and Hameed, T.A.K. (2015) Isolation, Characterization and Antimicrobial Resistance Patterns of Lactose-Fermenter Enterobacteriaceae Isolates from Clinical and Environmental Samples. *Open Journal of Medical Microbiology*, 5, 169-176. http://dx.doi.org/10.4236/ojmm.2015.54021