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A STUDY ON ANTIBIOTIC RESISTANCE PATTERN AND AMPC β-LACTAMASE PRODUCTION IN CLINICAL ISOLATES OF *Klebsiella pneumoniae* FROM NORTHEAST INDIA

BORA A[1], AHMED GU[1*] AND HAZARIKA NK[2]

1: Department of Biotechnology, Gauhati University, Guwahati, Assam, India

2: Department of Microbiology, Gauhati Medical College and Hospital, Guwahati, Assam, India

***Corresponding Author: E Mail: guaresearch@gmail.com; Phone No.: 00919864104502;**

Fax: 00910361 2700311

ABSTRACT

We determined the antibiotic resistance pattern and AmpC β-lactamase production in *Klebsiella pneumoniae* isolates recovered from various clinical specimens at a tertiary care referral hospital in Northeast India. A total of 112 consecutive, non-duplicate isolates of *K. pneumoniae* isolates were recovered between January and June, 2009. The resistance pattern of the *K. pneumoniae* isolates to different antibiotics was determined by the Kirby-Bauer disc diffusion method. An isolate with a with a zone diameter of less than 18 mm for cefoxitin was considered as screening positive isolate for AmpC β-lactamase production. Production of AmpC β-lactamase was further confirmed by employing AmpC disc test and boronic acid disc test. By disc diffusion testing, 87.6%.of *K. pneumoniae* isolates was found to be multi-drug resistant (MDR, i.e. resistant to three or more antibiotics). Out of 43 screening positive isolates for AmpC β-lactamase production, 55.81% showed positive results in AmpC disc test and 62.79% showed positive results in boronic acid disc test. Understanding of antibiotic resistance pattern of important bacterial pathogen is essential to establish an appropriate antimicrobial regime. Since, inability to detect AmpC β-lactamase production in bacterial pathogens may lead to therapeutic failure, it is essential to detect AmpC β-lactamases in clinical laboratory on a daily basis.

Keywords: Antibiotic Resistance, Multi-Drug Resistant, AmpC β-lactamase, *Klebsiella pneumoniae*