

Investigation in Mutations of ParC Gene in Drug Resistance Strains of *Klebsiella pneumoniae* Isolated different hospitals in Rasht city and east of Guilan Province

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Background and Objectives: Antibiotic resistance is a major threat for human that affects hospitalized health patients worldwide; Hence, The World Health Organization (WHO) has chosen antibacterial resistance as its theme in 2011. *Klebsiella pneumoniae* is a gram- negative opportunistic pathogen and a common cause of nosocomial infections. These bacteria -especially in infants- are the cause of pneumonia, sepsis, meningitis, diarrhea and bacteremia. Increasing emergence of multidrug resistance (MDR) among *K.pneumoniae* nosocomial isolates has limited the appropriate therapeutic options for the treatment of infections caused by this pathogen. *K. pneumoniae* is a gram-negative opportunistic pathogen and is a common cause of nosocomial infections as pneumonia, sepsis, meningitis, diarrhea and bacteremia. The aim of this study was the investigation of mutations of ParC gene in drug resistant isolated of *K.pneumoniae* in patients Guilan hospitals. **Methodology:** 40 *K. pneumoniae* strains, isolated different clinical samples and identified by biochemical tests. Then, the resistance and antibiotic susceptibility of strains was identified and determined by Kirby Bauer method and then PCR-sequencing was carried out to assess mutation in drug resistant strains. **Results:** 15% of samples were resistant to all antibiotics and showed the highest resistance to nalidixic acid (NA) and ciprofloxacin antibiotic (32.5%), while the lowest one was belonged to gentamycin (GM). the highest resistance for ciprofloxacin (CP) was seen in (1024 g/ml), sequencing was done in part of the ParC gene and the mutation E84K was found in some strains. **Conclusion:** Knowledge of rate and types of mutations in nosocomial infectious could be so effective in reducing admission, therapeutic costs

and mortality of patients and resistance rate control of the bacteria in this group.

Keywords : Keywords: Antibiotic resistance, Klebsiella pneumoniae, ParC.

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