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Microbiol Curr Res, Volume 3
DOI: 10.4066/2591-8036-C1-006

4th International Conference on

Medical Microbiology

May 20-21, 2019 | Vienna, Austria

Molecular characterization of antibiotic resistant *Escherichia coli* isolates recovered from food samples and outpatient clinics

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Multidrug-resistant *Escherichia coli* is one of the most important public health concerns worldwide that can be transferred through the food of animal origin to human being causing serious infection. The genetic responsibility of such resistant genes (Plasmids, integrons and transposons) can be easily transmitted from the resistant strain to another. Therefore, the main objectives of the study is the molecular characterization of the resistant *Escherichia coli* isolates recovered from food samples and human isolates collected from outpatient clinics, KSA especially the resistance strains against aminoglycoside resistance genes which are responsible for the resistance against gentamicin and the resistance caused b-lactamases genes. Examination of food samples revealed 120 *Escherichia coli* isolates (22.22%) (30 strains O26: K60,28 strains O128: K67, 20 strains O111: K58, 18 strains O126: K58, 10 strains O55: K59, 9 strains O86: K61 and 5 strains O157: H7). All the strains were highly resistance to penicillin, amoxicillin-clavulanic and erythromycin with a percentage of 100%, while the resistance to gentamicin, ampicillin, oxytetracycline, chloramphenicol, norfloxacin, trimethoprim, and nalidixic acid were 83%, 75%, 65.3%, 55.8%, 36.5%, 30.7% and 26.9% respectively. On the other hand, 59.6% of tested strains were sensitive to ciprofloxacin. Positive amplification of 896 bp fragments specific for aacC2 genes were observed by PCR designated for the detection of the aminoglycoside resistance genes. Meanwhile, multiplex PCR designed to detect the ampicillin and amoxicillin-clavulanic acid resistant *E.coli* isolates revealed positive amplification of 516 bp fragments specific for BlaTEM gene with all the resistant strains to ampicillin and amoxicillin clavulanic acid. Moreover, positive amplification of 392 bp fragments specific for BlaSHV resistant gene were observed with (60.52%) of *E.coli* isolate. While all the tested strains were negative for amplification of BlaOXA_1.

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