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"Prevalence of beta-lactam and fluoroquinolone resistance, and virulence factors in *Escherichia coli* isolated from different poultry species"

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English abstract

A total of 252 samples were collected from different organs of diseased and freshly dead broiler chickens and ducks from different poultry farms at Ismailia Governorate. *E.coli* isolation rate was 80.6% (203/252). Thirty six of *E.coli* isolates were serogrouped into: O63, O111, O125, O143, O152, O157:H7, O164, O169, O55, O86a, O114, O115, O119 and O158, while 8 *E.coli* isolates found to be untyped. Forty *E.coli* isolates were examined for their antibiotic senstivity to 15 antibacterial agents (from 5 different antibiotic groups). All *E.coli* isolates (97.5%) were highly resistant to penicillin G and ceftriaxone, (92.5%) were resistant to cephalexin and (77.5%) were resistant to ampicillin, (62.5%) were resistant to amoxicillin/clavulanic acid and oxytetracycline, (45%) were resistant to nalidixic acid, (35%) were resistant to ciprofloxacin and neomycin, (32.5%) were resistant to norfloxacin, (22.5%) were resistant to cefotaxime and ceftazidime, while (65%) and (35%) were intermediate resistant to colistin sulphate and levofloxacin, respectively. All tested *E.coli* isolates were resistant to at least 3 antibiotic groups and multidrug resistance was seen. Conventional PCR (cPCR) results indicated that representative 18 *E.coli* isolates had virulence genes as *iss*, *iut*A and *vat* genes 100% (18/18), *tra*T gene 88.8% (16/18), *eae*A gene 27.7% (5/18), while only 11% (2/18) had *pap*C gene. Also 18 *E.coli* isolates had beta-lactam and fluoroquinolone resistance genes as bla_{TEM}, bla_{SHV} and *amp*C genes100% (18/18), *qnr*S gene 83.3% (15/18), $bla_{\text{CTX-M}}$ gene 27.7% (5/18), while only 16.6% (3/18) had *qep*A gene.

Keywords Poultry, *E.coli*, Serogroup, Antibiotic Resistance, cPCR, Virulence Genes, Resistance Genes

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