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بسم الله الرحمن الرحيم

مركز الشبكات وتكنولوجيا المعلومات

قسم التوثيق الإلكتروني



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جامعة عين شمس

التوثيق الإلكتروني والميكرو فيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
على هذه الأقراص المدمجة قد أعدت دون أية تغييرات





Cairo University
Faculty of veterinary medicine



Detection of antibiotic and disinfectant resistance genes in *E.coli* isolated from chicken

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Abstract

Poultry is the most important economic face for Egypt industry. Colibacillosis consider a dangerous problem for poultry industry. Quaternary ammonium compounds (QACs) are widely distributed in poultry industry. Occurrence of *qac* and antibiotic resistant genes in *E.coli* isolated from chickens in Egypt were detected in the study. The incidence of *E.coli* in chicken was 34%. *E.coli* isolated were serologically identified commonly serogroups were O128, O111, O44, O158 and O2. Antibioqram pattern of *E.coli* revealed that 100% of isolates were resistant to ampicillin, erythromycin and sulfamethoxazole-trimethoprim, while were sensitive for colistin sulphate and levofloxacin with 73.53% and 38.23% respectively. Antibiotic resistance genes as *tetA* gene was tested for isolated *E.coli* and detected by incidence rate 91.18%. *qac* resistance genes resembling as *qacED1* and *qacA/B* genes were detected in isolated *E.coli* 70.6% and 14.7% respectively, while *qacC/D* gene wasn't detected in all *E.coli* isolates by PCR. In conclusion, *E.coli* isolated from chickens in Egypt was carried both *qac* and antibiotic resistant genes that affect poultry industry.

Key words: *E. coli*, Chickens, Antimicrobial resistance, *qac* resistance genes, Egypt.

*I would like to dedicate
this work to ;*

♥ *My parents (Abd El-fattah and Bothina)
for support, love, sacrifice, care and advice.*

♥ *My wife (Yasmin) for giving, effort and
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List of abbreviations

APEC	Avian Pathogenic <i>E.coli</i>
CFU	Colony Forming Unit
IROMPS	Iron Regulated Outer Membrane Proteins
LPS	Lipo Poly Saccharide
MDR	Multi Drug Resistance
MIC	Minimum Inhibitory Concentration
PCR	Polymerase Chain Reaction
QAC	Quaternary Ammonium Compounds
SHS	Swollen Head Syndrome
SMR	Small Multidrug Resistance
VAN	Veterinary Antimicrobial Resistance Surveillance Network