

Prevalence of Antibiotic Resistance among Avian Escherichia coli Strains Isolated from Broiler Chickens

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Background & Objectives: The application of antibiotic for prophylaxis and therapy in broiler chicken production has been associated with the emergence and dissemination of antibiotic resistant bacteria. Antimicrobial therapy is an important tool in reducing both the incidence and mortality associated with avian colibacillosis. However, resistance to existing antibiotics is widespread and of concern to poultry veterinarians. The aim of this study was to present status of antibiotic resistance in avian pathogenic E. coli isolated from broiler chickens were collected in Gonabad poultry (Khorasan Razavi, Iran) during 1390 and 1391.

Methods: A total of 100 E. coli strains were isolated from 190 chicken. The antibiotic resistance of the strains to different antibacterial agents was determined by the standard disk diffusion Methods (Kirby bauer Methods) in Mueller-Hinton agar with disks (Padtan Teb Disk).

Results: Multiple resistance to antibiotics was observed in all isolates. The highest rate of resistance was against Oxytetracycline (75%), followed by Erythromycin (60%), Flumequin (55%), Sultrim (50%), Doxycycline (50%), Florfenicol (45%), Penicilin (35%), Neomycin (20%), Enrofloxacin (10%), Linco Spectin (5%) and none of the isolates were resistant to Colestin and Gentamycin. In vitro antibiotic susceptibility testing of veterinary pathogens can provide valuable guidance to the veterinarian in the choice of appropriate antibiotic. In vitro antibiotic sensitivity results obtained in our study agreed with several previous reports (1,5,6), which have indicated increasing incidences of antibiotic-resistant E. coli strains isolated from chickens with colibacillosis.

Conclusions: The high level of antibiotic resistance in avian pathogens in this study is worrisome and indicates that widespread use of antibiotics for disease prevention could have negative implications for human and animal health and the environment.

Keywords: E. coli; Antibiotic Resistance; Broiler Chickens