**Antimicrobial Resistance Pattern of *E. coli* and *Salmonella* in Layer Poultry**

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# A clinical report submitted by

Intern ID: D-42

Roll No: 2007/46

Registration No: 333

*In Partial Fulfillment for the Degree of Veterinary Medicine*

**Chittagong Veterinary and Animal Sciences University**

**Khulshi, Chittagong**

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The author wishes to express his deepest sense of gratitude, sincere appreciation, indebtedness and profound regards to his respected teacher and reverend supervisor, Dr. Mohammad Mahmudul Hassan, Associate Professor, Department of Physiology, Biochemistry &Pharmacology, Faculty of Veterinary Science, Chittagong Veterinary and Animal Sciences University, for his constructive and constant guidance in planning and execution of this research work, continuous encouragement, scholastic guidance, and affectionate feelings throughout the course of research work.  The author is deeply owe, Professor Dr. Md. Masuduzzaman, Department of Pathology & Parasitology, Faculty of Veterinary Science, Chittagong Veterinary and Animal Sciences University, for his help and valuable advice during research work.  *The author also would like to express his thanks to DR. A.K.M Saifuddin, Professor & Head of the Department of Physiology, Biochemistry & Pharmacology,* Faculty of Veterinary Science, Chittagong Veterinary and Animal Sciences University, *for his constant help during the study.*  he author wishes to express his gratitude to Dr. Bibek Chandra Suttradhar, Associate professor and Director External Affairs, Chittagong Veterinary and Animal Sciences University, for his supervision and kind co-operation during the period of internship.  Finally, the author wishes to express his sincere *gratefulness* to his Mothers and sisters for their blessing throughout his academic life.  The Author  June, 2013    A  ABSTRACT   |  | | --- | |  |   *E. coli* and *Salmonella* resistance to the commonly used antimicrobials both in the public health and veterinary practice is one of the major threats of health care worldwide. The present study was undertaken to determine the antimicrobial resistance pattern of *E. coli* and *Salmonella* strains isolated from commercial layer from different layer farm under Chittagong district of Bangladesh, during the period September to December, 2012. Isolation and identification of *E. coli* and *Salmonella* was done by using different methods. Isolated *E. coli* and *Salmonella* were tested for resistance to 10 different antimicrobial agents, using disc diffusion method. The *E. coli* were found 100% resistant to Tetracycline, Ciprofloxacin, Enrofloxacin and Pefloxacin followed by Amoxycillin (84.62%), Kanamycin (69.24%), Colistin (63.75%), Doxycyclin (53.75%) and Neomycin (23.08%). Besides *E. coli* isolates show high sensitivity to Gentamycin (100%) and Neomycin (76.92%). Among the *Salmonella* isolates 100% were found resistant to Amoxycillin and Tetracycline followed by Enrofloxacin (87.5%), Ciproflpxacin (87.5%), Pefloxacin (87.5%), Doxycycline (50%), Colistin (50%) and Kanamycin (50%). *Salmonella* isolatesshowed high sensitivity (100%) to Gentamycin and Neomycin. The present study confirms the significant increase of the resistance level in *E. coli* and *Salmonella* isolated from poultry isolates. This is, probably, due to increase use of antibiotics as feed additives for growth promotion and prevention of disease, overlooking the proper withdrawal period, resistance transfer among different bacteria, and possible cross-resistance between antibiotics used in domestic animals and those used in human medicine.  Key word: Layer bird, E. coli, Salmonella, Antimicrobial, Antimicrobial Resistance, Public health.    B |
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