RESEARCH REPORT

Bacterial Isolation and their antibiogram from the Broilers of Maha-koushal Region (M.P.) India

Mishra Priti[1] and Shukla Satish[2*]

[1]*Department of Fishery Science, College of Veterinary Sci. & A. H., Jabalpur (M.P.)*

[2]*Central Poultry Diagnostic Laboratory, Narmada Road, Jabalpur (M.P.)*

**Corresponding author: skshukla24@gmail.com*

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ABSTRACT

A total of 103 samples of poultry of different age groups of non specific infections were tested. The cultural examination revealed presence of the organisms in descending order *E. coli, Staphylococci, Enterobactor, Pseudomonas, Bacillus, Streptococci* and *Klebsiella*. Antibiogram of these samples showed Ceftiofur sodium, Levofloxacin, Amikacin, Ciprofloxacin, Chloramphenicol, Gentamicin Amoxycilin, and Ampicillin as most effective antimicrobials while Doxycycline, Streptomycin and Oxytetracycline are moderately effective.

Keywords: Poultry-Broiler, Antimicrobial susceptibility, Bacteria, Non-specific infection, Mahakoushal region (M.P)

INTRODUCTION

Broilers play a very important role in national economy of India. We have well acquainted with many bacterial, viral, protozoal and parasitic diseases of poultry. (Buxton et al (1952). There is a lot of mortality due to specific diseases but 4-5% of mortality is due to non-specific bacterial infections. These causative agents are known to cause acute diseases revealed by septicemic changes (Biester, 1969). The present study was therefore under taken to isolate and identify the bacterial agents involved in non-specific infections in poultry and *in vitro* antibiotic susceptibility (Antibiogram) of the isolated organism.

MATERIAL AND METHODS

One hundred and three samples were collected from heart blood, fecal sample, lungs, gall bladder and intestine of the birds on post mortem of the birds which have not shown any specific bacterial, viral, protozoal, and parasitic infections. These samples were collected from college poultry farm and commercial chicks, broiler, grower and layers.

Organisms were isolated as per Cruickshank et al. (1975). Bacteria were identified on the basis of staining, colony morphology, cultural and biochemical character of pure isolates. These bacterial isolates were subjected to *in vitro* antibiotic susceptibility test (Antibiogram) as described by Bauer et, al. (1966) with antibiotic disc supplied by Hi Media Mumbai. The antibiotic discs used were of following strengths. Amikacin (Ak 25mcg), Amoxycilin (Am 30 mcg), Levofloxacin (Le 10 mcg), ciprofloxacin (Cf10 mcg, Enrofloxacin (Ex 25mcg), Ceftiofur sodium (Xnl 15mcg) (pfizer), Furazolidone (Fr 30 mcg) ,Ampicillin (Amp- 10 mcg,) Streptomycin –(S 10 mcg), Gentamicin (G- 10 mcg), Oxytetracycline – (O 30 mcg), Chloramphenicol – (C-30mcg), Doxycycline – (Do 30 mcg).

RESULTS AND DISCUSSION

Out of one hundred and three samples tested from chicks, growers, layer and broilers, the percentage of isolates is summarized in Table No.1. Isolation of these bacteria has been reported earlier by so many workers from poultry. *E. Coli* from poultry have been reported by Davis (1938): (1962) Staphylococci by Williams and Daines (1942) Streptococci by Buxton (1952) and Agrimi (1956). Respiratory tract disease syndromes that occur in birds associated with Escherichia coli infection by Cheville et al (1978).

Thus from the above table Ceftiofur sodium, (96.66%), Levofloxacin (91.93%), Amikacin (88.33%)

Table 1: Bacterial Isolates obtained from non-specific infections in poultry of Mahakoushal region (Jabalpur Region)

Sr.No	Bacteria	Total no. (103) of isolates obtained	Percentage
1	*E.coli*	29	28.155
2	*Staphyloccocus*	20	19.417
3	*Enterobacter*	9	8.737
4	*Pseudomonas*	9	8.737
5	*Bacillus*	6	5.8
6	*Streptococci*	7	6.796
7	*Klebsiella*	1	0.970
8	*E.coli and staphylococci*	7	6.796
9	*E.coli and pseudomonas*	3	2.912
10	*Enterobacter and staphylococci*	5	4.854
11	Mixed infection	7	6.796

Table 2: Antibiotic susceptibility (Antibiogram) of the bacterial isolates from the poultry.

Sr.No	Antiobiotic	Total isolates tested	Isolates susceptible	Percentage	Rank
1	Chloramphenicol	62	41	66.12	5th
2	Gentamicin	56	29	51.78	7th
3	Ampicilin	34	17	50.00	8th
4	Doxycycline	7	2	28.57	10th
5	Streptomycin	29	6	20.68	11th
6	Furazolidone	42	5	11.9	13th
7	Oxytetracycline	15	3	20.00	12th
8	Levofloxacin	62	57	91.93	2nd
9	Ciprofloxacin	62	51	82.25	4th
10	Enrofloxacin	62	40	64.51	6th
11	Amikacin	60	53	88.33	3rd
12	Ceftiofur sodium	60	58	96.66	1st
13	Amoxycilin	34	12	35.29	9th

Ciprofloxacin (82.25%), Enrofloxacin (64.51%) Chloramphenicol (66.129%) were found to be effective followed by Gentamicin (51.78%), Ampicillin (50%), Amoxycilin (35.29%) Doxycycline (28.57%) Streptomycin (20.689%), Oxytetracycline (20%) and furazolidone (11.9%) respectively.

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