

Bacterial Isolation and their antibiogram from non-specific infection in poultry of Marathwada region

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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 Chloramphenicol, Gentamicin and Ampicillin as most effective antibiotics while Doxycycline, Streptomycin and Oxytetracycline are moderately effective.

Keywords: Poultry, Antibiogram, Bacteria, Non-specific infection, Marathwada

Introduction

Poultry play a very important role in national economy of India. Veterinarians are very well acquainted with many bacterial, viral, protozoal and parasitic diseases of poultry. 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 undertaken to isolate and identify the bacterial agents involved in non-specific infections in poultry and *invitro* antibiotic sensitivity (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.* (1965). Bacteria were identified on the basis of staining, colony morphology, cultural and biochemical character of pure isolates. These bacterial isolates were subjected to *invitro* antibiotic sensitivity test (Antibiogram) as described by Bauer *et. al.* (1996) with antibiotic disc supplied by Hi Media Mumbai. The antibiotic discs used were of following strengths.

Furazolidon	-	100mcg,
Ampicillin	-	10 mcg,
Streptomycin	-	10 mcg,
Gentamicin	-	10 mcg,
Oxytetracycline	-	30mcg,
Chloramphenicol	-	30mcg,
Doxycycline	-	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

Table -1 Bacterial Isolates obtained from non-specific infections in poultry of Marathwada Region.

Sr.No.	Bacteria	Total no. of isolates obtained	Percentage
1	E.Coli	29	28.155
2	Staphylococci	20	19.417
3	Enterobactor	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	Enterobactor and Staphylococci	5	4.854
11	Mixed culture	7	6.796

Table- 2 Antibiotic susceptibility (Antibiogram) of the bacterial isolates

Sr.No.	Antibiotic	Total isolate tested	Isolates susceptible	Percentage
1	Chloramphenicol	62	41	66.129
2	Gentamicin	56	29	51.78
3	Ampicillin	34	17	50.00
4	Doxycycline	7	2	28.57
5	Streptomycin	29	6	20.689
6	Furazolidon	42	5	11.904
7	Oxytetracycline	15	3	20.00

earlier by so many workers from poultry. E. Coli from poultry have been reported by Davis (1938). Gurumurthy and Panduranga Rao (1962). Staphylococci by Williams and Daines (1942). Seetharaman and Sharma (1949). Pseudomonas by Merchant.I.A. and Packer R.A.(1967). Streptococci by Buxton (1952). and Agrimi (1956).

Thus from the above table Chloramphenicol (66.129%) was found to be most effective followed by Gentamicin (51.78%), Ampicilline (50%), Doxycycline (28.57%) Streptomycin (20.689%), Oxytetracycline (20%) and furazolidon (11.9%) respectively.

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High levels of exposure to West Nile Virus found

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A study of samples from 750 horses in the United Arab Emirates has shown that one in five has been exposed to West Nile Virus, a potentially deadly disease that also affects people. The disease was first isolated in Uganda in 1937 and has since spread around the globe, reaching the United States in 1999. It mainly attacks birds, but is known to infect humans, horses, dogs, cats, bats, chipmunks, skunks, squirrels, and domestic rabbits. Humans and horses contract the disease through bites from infected mosquitoes. Infected people and horses cannot spread the disease. The study of the Emirates horses showed that 144 of the 750 horses (19.2%) had been exposed to the virus. The research was carried out by a team from Dubai's central Veterinary Research Laboratory. While most horses recover from the disease, some become seriously ill and can die. Following transmission by an infected mosquito, the virus multiplies in the horse's blood system, crosses the blood brain barrier, and infects the brain. It can interfere with normal central nervous system functioning and causes inflammation of the brain. Like horses, most people show only mild symptoms, but about one in 150 people infected with the virus will develop severe illness, including including high fever, headache, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis. The symptoms may last several weeks, and neurological effects may be permanent. Milder symptoms, in 20% of victims, include fever, headache, and body aches, nausea, vomiting, swollen glands and skin rashes. About 80% of infected people show no symptoms.