

## **Overview of Bacterial Diseases in Poultry and policies to control disease and antibiotic resistance**

**Abdul Samad<sup>\*1</sup>, Muhammad Hamza<sup>2</sup>, Ayesha Muazzam<sup>3</sup>, Areeb Ahmer<sup>4</sup>, Sania Tariq<sup>5</sup>, Muhammad Junaid Shahid<sup>6</sup>, Fakhar Ul Din<sup>7</sup>, Waseem Akram<sup>8</sup>, Muhammad Zain Kaleem<sup>9</sup>, Shehroz Ahmad<sup>10</sup>**

<sup>1,2,3,4,5,7,8,9,10</sup>Faculty of veterinary and Animal Sciences MNS University of Agriculture 25000, Multan, Pakistan.

<sup>6</sup>Department of Zoology, Bahauddin Zakariya University Multan, Pakistan

Email : <sup>2</sup>[hamzazulfqar5172@gmail.com](mailto:hamzazulfqar5172@gmail.com), <sup>3</sup>[ashu2nice@gmail.com](mailto:ashu2nice@gmail.com), <sup>4</sup>[ahmerhameed45@gmail.com](mailto:ahmerhameed45@gmail.com), <sup>5</sup>[saniatariq3366@gmail.com](mailto:saniatariq3366@gmail.com), <sup>6</sup>[junaid.shahid.aslam@gmail.com](mailto:junaid.shahid.aslam@gmail.com), <sup>7</sup>[fa0679330@gmail.com](mailto:fa0679330@gmail.com), <sup>8</sup>[waseemakramhadi@gmail.com](mailto:waseemakramhadi@gmail.com), <sup>9</sup>[zainkaleemoutlook@gmail.com](mailto:zainkaleemoutlook@gmail.com), <sup>10</sup>[ff8713616@gmail.com](mailto:ff8713616@gmail.com)

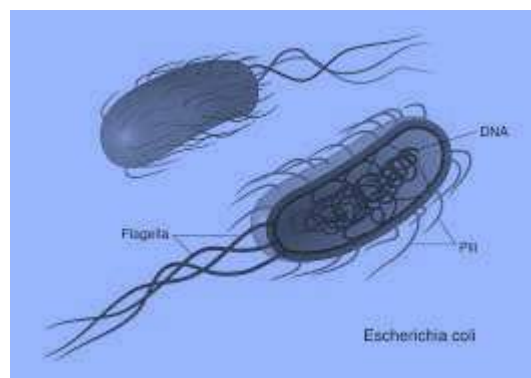
email corresponding: <sup>1</sup>[\\*buzdarabdulsamad@gmail.com](mailto:buzdarabdulsamad@gmail.com)

**Abstract**– Bacterial diseases are very common in both man and animal and these are effecting both creatures. Most of bacterial Infections are sever enough to kill bird or animal e.g CRD or Mycolplasma infection in bird become cause of highest mortality ratio. In this study we will give possible solution to combat with bacterial infection and also give a Policy to save poultry birds from bacterial infections. This study give an idea of to alter the antibiotics. This study completely describe the effect of antibiotics and also give a policy to save the bird from antibiotics resistance. This review shows, if we do right management we can minimize the risk of bacterial infections the focus of this study in on two topics.

- Describe the Bacterial Diseases
- Policy to control Bacterial Disease
- Bring light toward antibiotics resistance
- Method to reduce antibiotic resistance. This study also describe the sign, symptoms and lesions of disease which may provide a pathway to diagnose the disease and if a person who don't know much about disease of poultry he can also know about bacterial disease by reading that study

### **1. INTRODUCTION**

Bacteria are organisms which are small in size these are also called Microorganisms as we can't see them with naked eye [1,2,3] . Bacteria are present in almost all over the world and playing major role in an environment some species of bacteria can survive under very extreme condition. All animals contain number of bacteria in their bodies which may give harm or advantage to the body of bird. Bacterial diseases are effecting birds badly and becoming major reason of loss. The major reason of bacterial attacks are lack of Management [4,5]. There are several bacterial infections much enough sever that mortality ratio can increase as much as 70%. [6,7,8,9]



The diseases which occur due to the bacteria such diseases are Called Bacterial Diseases.

#### Bacterial Diseases in Poultry

- Salmonellosis
- E.Coli Infections
- Fowl Cholera
- Paratyphoid Infections
- Cholangiohepatitis In Broiler Chickens
- Riemerella Anatipestifer Infections
- Necrotic Enteritis
- Mycoplasma
- Gangrenous Dermatitis
- Chicken Tuberculosis
- Infectious coryza

Here is short Explanation about above disease including The name of bacteria which is cause of that disease

#### **Salmonellosis**

Causative agent: *Salmonella*

Salmonella is an enteric microorganism that can contaminate practically all creatures including people. Salmonellosis in poultry is brought about by Gram-negative microorganisms from the class Salmonella [6]

Signs.

- Intestine hemorrhages
- Off Feed

#### E.coli Infection

Causative agent: *E.coli*

Disease or infection in which accumulation body cells and tissue which is due to E.coli bacteria such disease is called E.coli Infection [6,14].

#### **Signs**

Liver damage, Laziness, Off feed, Infection on liver [10]

#### **Fowl Cholera**

Causative agent: *Pasteurella multocida*

Fowl cholera is a infectious disease of Avian Group which is due to a bacteria named as *Pasteurella multocida*. [11,12,13] Less mortality caused by this disease .Having some signs

#### **Sign**

Laziness, Swelling of wattle, Pneumonitis, Twisting neck

#### **Paratyphoid Infections**

Causative agent: *Salmonella*

Paratyphoid is major disease of poultry which is due to unguided staff in feed industry as it is due to Salmonella. Feed is contaminated by *salmonella*. [9] Major source of Salmonella are feces by which salmonella is transferred to egg shell and then in the germinal disk. [14,15,16]

#### **Sign**

Stress, Reduce in growth, Laziness, diarrhea, water deficiency in the body

#### **Cholangiohepatitis (CAH) in broiler chickens**

Causative agent: Unknown

Cholangiohepatitis (CAH) in broiler chickens is a condition in which liver swells and become hard etiological agent is unknown yet but *Clostridium perfringens* was found in liver some other bacteria like

Escherichia coli, Pasteurella haemolytica, Streptococcus equisimilis, Campylobacter sp  
Also found in liver and bile duct of infected birds [17,18,19,20]

**Signs**

Enlargement of liver, Yellow liver, Hardness of liver, Loss of weight, Off feed

**Riemerella Anatipestifer Infections**

Causative agent: *Riemerella anatipestifer*

It is an infectious disease which effects ducks goose and other avian species. It is due to a gram negative bacteria *Riemerella anatipestifer I* [21,22,23]

**Signs**

Cough , Sneezing, Discharge from nose, Watery green feces, Nervous signs

**Necrotic Enteritis**

Causative agent: *Clostridium perfringens*

Necrotic enteritis is a poultry disease which is due to extra growth of *Clostridium perfringens* type A, and to a less extent type C, [25,26,27] in the avian small intestine. C produce toxins. The intestinal wall would be damage by perfringens. Normally it effects the chickens at the age 2-6 weeks.

**Signs**

Severe type of Stress, Loose motions, Deficiency of water, Off feed, Disarranged feathers

**Mycoplasma**

Causative Agent:- *Mycoplasma gallisepticum*

*Mycoplasma gallisepticum* (MG) is common respiratory disease of chickens [28,29,30]

**Signs**

Water in eyes, Lesions on trachea, Runny nose, Cough, Off feed, Weight Loss

**Gangrenous dermatitis**

Causative Agent: *Clostridium septicum, C, perfringens type A, and Staphylococcus*

It is disease in hens and other avian groups caused by *Clostridium septicum, C, perfringens type A, and Staphylococcus* in which high ratio of mortality and Narcosis of skin and thigh occur

**Signs**

- Dark color of skin, wing and breast
- Loss of weight
- Off feed

**Chicken Tuberculosis**

Causative agent: *Mycobacterium avium subsp avium*

It is disease of birds which usually effects the small birds like pigeons and pheasant and also effect bird in free range

**Signs**

Weight gain, Loss in production, stress

**Infectious Coryza**

Causative agent : *Avibacterium paragallinarum*

Infectious Coryza is a respiratory disease. Infectious Coryza occur due to a bacteria named as *Avibacterium paragallinarum* [7]. Clinical signs of Infectious coryza are Runny nose, laziness and face swelling. Effected bird could be recover by using antibiotics at initial stage. We can prevent birds from infectious coryza by adopting appropriate measures of biosecurity, good

managerial practices and doing vaccination of birds. Infectious Coryza seen in many country and it effect especially multistage farm.[31,32]

### **Signs**

Swelling of Face, Watery discharge from eyes and nose of bird, Swelling of wattles, Wheezin, Poor respiration , 10-40% decrease in egg production, Anorexia. [33]

## **2. MATERIAL AND METHODS**

### **Control Measure for Bacterial Disease**

There are two method to control the disease

- Use of Antibiotics
- Biosecurity

### **Vaccine of Bactria**

There is a rear chances that vaccination could be effective against Bacterial Diseases by=ut use of same antibiotics may cause the antibiotic resistivity

### **Use of Antibiotics**

Use of newly generated vaccine so that bird will be recover fast as bacteria will not resist those antibiotics. Use of Registered antibiotics [38] . Use anti biotic according to dosage.

### **Biosecurity**

We should follow the strict rule for bio security. No one from outside should enter in the shed [34] .Use sanitized equipment. Always use one time needle and sanitized needle while administration of antibiotics.Disinfectant should use after one flock during cleaning of house [35,36,37] .In large farm BBB level of biosecurity should be adopt.

## **3. Antibiotic Resistance and its solution**

Antibiotics should be use according dose. If we use an antibiotic again and again then It will be resistive and will not effective against disease next time[39,40,41]. The over dosage of antibiotics may also leads to antibiotics resistance in human [42]. The residual of antibiotics remains in the meat of bird when we eat meat of bird we indirectly intake antibiotics on daily or weekly basis when we eat meat and egg. The solution of this thing use antibiotics according to dosage and don't use antibiotics in broiler from the age of 32 days till slaughter. Use herbal drug instead of antibiotics or use new antibiotics. [43]

## **4. Conclusion**

This study give a proper policy to combat with bacterial poultry disease and tell us how to reduce or how to minimize the risk of antibiotic resistance in poultry. This study also describe the sign, symptoms and lesions of disease which may provide a pathway to

diagnose the disease. This study will make able a lay man to diagnose bacterial disease in poultry after reading that paper

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