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List of Abbreviations

API: Analytical Profile identification

bp: base pair

CRD: Chronic Respiratory Disease

DNA: Deoxyribonucleic acid

Fig.: Figure

I/P: Intra peritoneal

I/V: Intra venous

M R: Methyl red

NCCLS: National Committee for Clinical Laboratory Standards.

OprL: Outer membrane Lipoprotein L

P.aeruginosa*: Pseudomonas aeruginosa*

PCR: Polymerase Chain Reaction

P/M: Post mortum.

S/C: Sub cutaneous

TSI: Triple Sugar Iron agar

V P: Voges Proskauer

W. H. O.: World Health Organization

6- Summary

A total number of 372 samples were collected from five flocks representing 33,000 chickens, 224 samples were collected from broiler chickens of different ages showing profuse diarrhea and respiratory manifestations including sneezing, respiratory rale and nasal discharges, 84 samples from freshly deadand 64samples from apparently healthy broiler chickens of different ages.

All samples were cultured for24hrs at 37°C aerobically on ordinary media, selective media (pseudomonas cetrimide ager) for isolation and purification, nutrient agar to observe the pigment production and on sheep blood agar to observe the haemolysis properties. The suspected colonies were examined for their colonial morphology, microscopical examination and biochemical reactions.

The present results revealed that *P.aeruginosa* were isolated from diseased chickens with a rate of 14 (6.25%), recently dead 2(2.38%) and apparently healthy 1(1.56%). The Cloacal swabs gave the highest recovery rate with an incidence of 18.3%;followed by the intestinal and the heart blood with incidence rate of 3.8% and finally liver and air sac with incidence rate 1.9%.No isolates were reported from gall bladder and the lung samples.

P.aeruginosa isolates were highly sensitive to Colstinsulphate (76.5%), Norfloxacin (52.9%) and Amikacine (41.2%) while Gentamicin, Ciprofloxacin and Cefozone "cefoperazon" gave 23.5%, 17.6% and 11.8% respectively. But all isolates were resistant to Lincomycin, Naldixicacid, Streptomycin, Florphenicol, Chloramphenicol and Doxycyclin.

The *Pseudomonas aeruginosa* isolated from chickens were highly pathogenic to three day old chicks when inoculated intramuscular and sub cutaneous, but oral inoculation were less pathogenic. The mortality rate during the first 24hrs.was 100%by intramuscular rout and subcutaneous rout but no mortalities by oral rout in (group A) and in group B The mortality rate during the first 24hrs.was 100%by intramuscular rout but the subcutaneous rout gave100% in 48hrs, and 20% mortalities by oral rout in 6^{th} day post inoculation.

The results of PCR indicate the presence of *OPr*L gene of *pseudomonas aeruginosa* at 504 pb.

The results of PCR product of *P. aeruginosa* sequencing confirmed that the tested sample were *P.aeruginosa.*

7-Recommendations

P. aeuroginosa is considered to be an environmental infection and it is found in soil, water, feed and farm equipment's. It is however difficult to clear the farm from the organism since it has high resistant to various antibiotics and may be resistant to conventional disinfectants. Hence, prevention of Pseudomonas invasion is an indispensable duty to any farm. The farm management should take stringent measures against all the possible sources ofinfection. The measures may include, the farm workers should be trained on how to avoid environmental associated infectious diseases, use of disinfectants and the farm management should be committed in implementing all the necessary bio-security measures .

In this study *P.aeruginosa* isolates were highly sensitive to ColstinSulphate (76.5%), Norfloxacin (52.9%) and Amikacine (41.2%) while Gentamicin, Ciprofloxacin and Cefozone "Cefoperazon" gave 23.5%, 17.6% and 11.8% respectively. But all isolates were resistant to Lincomycin, Naldixicacid, Streptomycin, Florphenicol, Chloramphenicol and Doxycyclin.

Using PCRand API20 Etechnique for complete identification of *pseudomonas aeruginosa*.

Using DNA sequencing confirm that the tested sample were *P.aeruginosa*