

Short Communications

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Incidence and Antibiotic Sensitivity of Turkey Isolates of *Pasteurella multocida*

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ABSTRACT

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During November 2017 mortality among turkey farms were reported in Manabakkam village of Chittamur block of Kancheepuram district, Tamil Nadu. The infected farms were investigated and samples were collected. The clinical signs, postmortem findings and laboratory diagnosis confirmed the outbreak due to *P. multocida* infection. *In vitro* antibiotic study revealed that organisms were sensitive to Gentamicin. The infected birds were separated and treated to control the spread of the disease.

Introduction

Fowl cholera, is an important disease of both domesticated and wild birds (Rimler and Glisson, 1997) and is widely accepted as being of major economic importance wherever intensive poultry production occurs.

It is produced by the gram-negative bacterium *Pasteurella multocida*, is a major infectious disease of turkeys. The disease occurs as either acute septicemia with high mortality (Rimler and Glisson, 1997) or a more chronic condition affecting mainly the respiratory tract and signs are typically limited to localized infections – swelling. In clinical

observation of birds in the outbreak before death can reveal signs such as fever, anorexia, ruffled feathers, mouth discharge, diarrhoea and increased respiratory rate.

Furthermore, fowl cholera is an important cause of mortality in waterfowl, e.g. causing an estimated 5.3% of all non-hunting mortalities in North American waterfowl (Stout and Cornwell, 1976). Isolation and characterization of the bacteria from clinical samples is very important for the diagnosis of the disease. In the present study isolation, and *in vitro* antibiotic sensitivity test of *Pasteurella multocida* isolates from a turkey farm in Kancheepuram District.

Materials and Methods

In Manabakkam village of Chittamur block of Kaancheepuram district, Tamil Nadu, the Turkey farms showed mortality during November 2017. A total of 10 poult (3000 Nos.) were investigated in the village. The clinical signs were noted and postmortem was conducted. For disease confirmation and antibiotic sensitivity test, the following samples heart blood, spleen, liver and pericardial fluids were collected from the diseased birds. Direct blood smear, pericardial fluid heart blood swabs were sent to Central University Laboratory, Centre for Animal Health Studies, Madhavaram milk colony, TANUVAS, Chennai – 51, India for identification and antibiotic sensitivity test of bacterial infection.

Results and Discussion

On investigation of infected farm, poult died following clinical signs - high temperature ($41.0^{\circ}\text{C} - 41.5^{\circ}\text{C}$), mucopurulent nasal discharge, rhinitis and greenish diarrhoea. In postmortem examination, showed lesions such as congestion in liver, lungs and trachea and petechial haemorrhages in heart, liver and lungs. There were no changes in spleen, kidney, intestine and gizzard. Impression smear from lungs and liver were stained with leishman stain and showed bipolar organism. Blood samples from heart blood were isolated *Pasteurella multocida* in brain heart infusion broth and blood agar. Similar findings were observed by Laxmi Narayan Sarangi and Panda (2011).

In histopathological examination of liver, lungs, intestines noticed with multifocal necrotic hepatitis, multifocal sub acute pneumonia and diffuse moderate subacute enteritis respectively. In heart, trachea, brain and proventriculus changes were unnoticed. The history, clinical signs and the postmortem

examination, histopathological and microbiological identification were suggestive of *Pasteurellosis* in this outbreak in turkey farm. Antibiotic sensitivity tests of the *P. multocida* isolates revealed that the organisms were sensitive to Gentamicin and resistant to ciprofloxacin, norfloxacin, penicillins, erythromycin, ampicillin, doxycycline and tetracycline. Balasubramaniam and Gopalakrishnamurthy (2009) reported ciprofloxacin, norfloxacin, lomefloxacin, enrofloxacin and floxacin as sensitive and gentamycin, chloramphenicol, ampicillin, doxycycline and oxytetracycline as resistant from avian isolate of *P. multocida*. The resistance pattern of the present isolates is unusual to might have occurred due to common use of these antimicrobials agents at field level. The affected birds were isolated and treated with oral antibiotic, Vitamin-E and selenium and recommended to sanitization of affected and non affected birds. In this affected farm advised to segregate the desi chicken and reared it separately to prevent the occurrence disease in future. A strong message that should emerge on the adoption of auto vaccine to prevent occurrence of *P. multocida* infection in the Turkey farm.

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