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Reports of Infectious Coryza in Peafowls (*Pavo cristatus*) at Solapur District of Maharashtra, India

R.K. Chittora[1], A.S. Jadhav[1], N.C. Upreti[1]

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ABSTRACT

Background: Infectious coryza is a bacterial disease caused by *Avibacterium paragallinarum* which causes acute respiratory disease in chickens but it is also reported in Indian peafowls. Although this is a treatable condition in peafowls but need to diagnose and treat as earliest possible to save peafowls. The aim is to present reported cases of infectious coryza in peafowls.

Methods: From 2017 to 2020 total seven cases of peafowls showing symptoms of swollen eyes, sticky discharge from eyes and nostrils, closed eye lids due to swelling, purulent discharge from eyes and caseous masses were also observed while pressing of swelling over eyes were reported from different part of Solapur district. Gasping was common symptom observed in all the peafowls. All the cases were confirmed as infectious coryza on the basis of symptoms, though the ocular and nasal swabs were submitted for bacterial isolation to the laboratory. All peafowls were treated by using parenteral antibiotic injection Gentamicin @ 4.4 mg/kg of body weight and non-steroidal anti inflammatory drugs (NSAID) injection Meloxicam @ 0.2 mg/kg of body weight and cleaning of eyes with distilled water and instillation of gentamicin and diclofenac eye drops, oral administration of multivitamins and energy drinks

Result: Out of seven cases, 6 were female and 1 was male peafowl. Recovery rate was 85.71% and all recovered peafowl were released back in the nature. Recovery was depending on severity of symptoms and all six birds recovered within one to three weeks' time.

Key words: Gasping, Infectious coryza, Multivitamins, Peafowl, Respiratory disease.

INTRODUCTION

Infectious coryza is a bacterial disease caused by *Avibacterium paragallinarum* (previously *Haemophilus paragallinarum*) which causes acute respiratory disease in chickens. It is characterized by respiratory distress and having swollen head/face, gasping, purulent nasal and ocular discharges, occluded eyelids, anorexia, dullness and depression (Blackall 1999; Aktar *et al.,* 2013; Adenkola *et al*., 2015). Chicken (*Gallus gallus*) is the natural host for A. paragallinarum and birds of all ages are susceptible. The disease is usually transmitted through drinking water contaminated with infective nasal exudates. Infection may also occur by contact and by air-borne infected dust and/or droplets (Aktar *et al.,* 2013). *A. paragallinarum* is a Gram negative, polar staining, non-motile bacterium. The Indian Peafowl (*Pavo cristatus*) belong to family Phasianidae (commonly known as pheasants) and order Galliformes (Rajeshkumar *et al.,* 2012; Kushwaha *et al.,* 2016). The Indian Peafowl is the national bird of India, declared in 1963 (Dookia *et al*., 2015; Kushwaha *et al.,* 2016) and is common bird and widely distributed in the Indian Subcontinent (Rajeshkumar *et al.,* 2011). Peafowl lives in scrub jungles and forest edges and showing affinity to moist, dry deciduous and semiarid biomes. It is also found in agricultural fields, along streams with good vegetation and close to human habitations in a semi-feral condition (Dookia *et al.,* 2015). In present study, clinical cases of Infectious Coryza in peafowls are confirmed clinically though nasal and ocular swab which were presented to lab for isolation of bacteria and reported bacteria like *E. coli*, *Klebsiella pneumoniae* and *Pseudomonas*.

[1]Animal Rahat, Sangli-416 416, Maharashtra, India.

Corresponding Author: R.K. Chittora, Animal Rahat, Sangli-416 416, Maharashtra, India. Email: rakeshc@animalrahat.com

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Case reports (History, Clinical symptoms, diagnosis and treatment)

From 2017 to 2020 total seven cases of peafowls affected with Infectious Coryza were reported from different areas of Solapur district. All affected birds were found at bottom of the open wells or ponds and this might be due to an attempt of hiding by these affected peafowls in the safe place because they were not able to see anything due to closing of eye lid as a result of severe ocular swelling. All cases were showing clinical symptoms *viz.* swollen eyes, sticky discharge from eyes and nostrils, closed eye lids due to swelling, purulent discharge from eye and caseous masses was also observed while pressing of swelling over eyes, gasping was also a common symptom. All reported peafowls were dull, depressed, not eating on their own. All were confirmed as case of Infectious Coryza by clinical symptoms, though the nasal and ocular swabs were collected in buffer solution for isolation and identification of bacteria and antibiotic sensitivity test (ABST). Only *E. coli*, *Klebsiella pneumoniae* and *Pseudomonas* were isolated which are



Fig 1: Peafowls showing symptoms of swollen, closed eye lids, discharge from eye and gasping.

commensal in birds. As per ABST the one of the sensitive antibiotic was Gentamicin. All peafowls were treated with parenteral injection Gentamicin @ 4.4 mg/kg of body weight along with injection meloxicam @ 0.2 mg/kg, orange juice, vitamin A and multivitamin drops. In all cases eye were cleaned by using distilled water and then eye drops Gentamicin and Diclofenac were instilled 2-4 times in a day. Symptoms started to reduce in 3-4 days in all cases but the time taken for complete recovery of birds was different in all cases. All birds were fed with coriander leaves, cabbage and sprouted Moth Beans (*Vigna aconitifolia*). During initial period of treatment, all birds were fed by hands. It took them one to three weeks for complete recovery. After treatment all recovered peafowl were released back in nature (Fig 1).

Female peafowls (85.71%) are more affected as compared to male (14.29%) which is contradictory to article reported by Adenkola *et al.* (2015) that peacocks are more affected than peahen which might have the reason that in present review cases are reported from different area while in article by Adenkola *et al.* (2015), all birds were from a single flock. Recovery rate was 85.71% and only one bird died. Recovery time was depending on severity of symptoms present in birds which was ranging from one to three weeks' time. Recovery rate and time of recovery was in agreement of Adenkola *et al.* (2015). Peafowl were treated by using Gentamycin and resulted in proper recovery of birds as gentamicin is sensitive to bacteria which is in agreement of Haunshi *et al.* (2006) and Rajurkar *et al.* (2010). Isolation and identification of A. paragallinarum is required NAD additionally (Blackall, 1999) as phenotypic identification of *A. paragallinarum* has a challenging set of requirements as it is a fastidious, slow growing organism. Hence, it is often overgrown by other faster-growing commensals. However, the use of *Staphylococcus aureus* bacterial colony in the same media influences the growth of *A. paragallinarum* as it is reported that *Staphylococcus aureus* bacterial colony supply additional NAD for A. paragallinarum (Aktar *et al.,* 2013) that is why in reported cases only *E. coli*, *Klebsiella pneumoniae* and *Pseudomonas* were isolated as the facility of good laboratory isn't there in the area of reported cases.

CONCLUSION

Infectious Coryza in peafowls is a treatable condition once birds are presented to veterinarian on time and get appropriate treatment with good aftercare. We can save these national birds of India by reporting the cases early, timely diagnosis and proper treatment.

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