

OBSERVATION OF DISEASES DUE TO MICROORGANISM IN JAPANESE QUAILS AT DURG

MADHULIKA ROY^{a1}, USHA SAHU^b AND NEELU GUPTA^c

^aDepartment of Zoology, Govt. DT College Utai, Durg, Chhattisgarh, India

^bDepartment of Zoology, Govt. VYTPG College, Durg, Chhattisgarh, India

^cDepartment of Pathology, College of Veterinary Animal & Husbandry, Anjora, Chhattisgarh, India

ABSTRACT

The present Study of pathological conditions in Japanese quails due to infections were carried out at Durg. Perusal of the available literature revealed more information about the incidence of various pathological alterations in intestine of quails due to microorganisms. The study was focused on ulcerative enteritis and coccidiosis.

KEYWORDS: Japanese quails, Pathological alterations, Ulcerative enteritis, Coccidiosis, Microorganism, Histopathology.

Various pathological alterations were observed in the quails. A total of 304 (i.e. 60.67%) intestines out of 501 samples were found affected with enteritis and coccidiosis. A total of 176 cases of enteritis i.e. 35.12% occurrence were observed in total number of quails observed and 128 (42%) samples have shown the presence of coccidiosis.

MATERIALS AND METHODS

A total of 501 quails of either sex were selected as the material which were obtained from various farms located in and around the Durg district. The age was ranging from one week to twenty-four weeks. Tissues were fixed in 10% buffered formalin for routine histopathology by H&E staining

OBSERVATION

Ulcerative Enteritis

It was observed in 38 quails i.e. 21.59% occurrence was observed.

- Ulcerative Enteritis is an acute, highly contagious disease observed in quails caused by the bacterium Clostridium colinum. It is characterized by ulcers of the intestines and caecae.
- Patchy necrotic areas were seen.
- Lower small intestine showed ballooning and hemorrhagic patches.

Coccidiosis

In the present study 4% mortality was observed in quails during the monsoon months i.e. 20

quails died out of total observation of 501, and 128 samples of intestines were found positive for the presence of Eimeria species, i.e. 49.09% occurrence was noticed. Thickening was observed in the caecal wall. Remarkably, the mid part of intestine showed petechial hemorrhages whereas lower part had congestion.

RESULTS AND DISCUSSION

Incidence of Pathological Conditions with Gross and Microscopical Changes Present study has revealed various pathological alterations in above said tissues intestine. (Table 1, Graph 1&2). The present study showed the maximum number of affections in intestine (60.67%). The present study was focused on ulcerative enteritis (38) and coccidiosis (128).

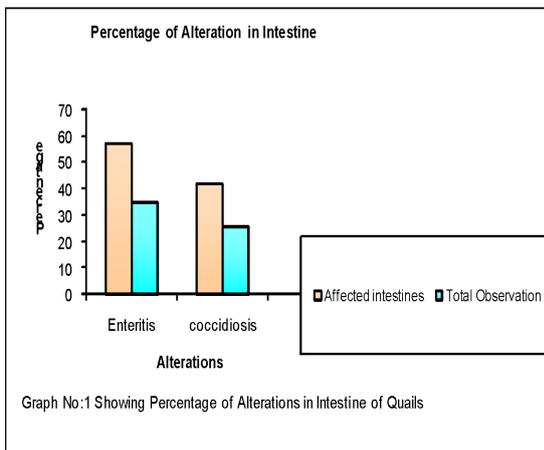
This study has also indicated that under local conditions a significant number of quails were found affected in Durg district. Several predisposing factors like climatic conditions, environmental factors (like temp, rains, humidity etc.), toxic matters, infectious diseases, pathogens like bacteria, virus, protozoans etc, poor hygienic conditions and inadequate management might be responsible for pathological changes, morbidity and mortality.

¹Corresponding author

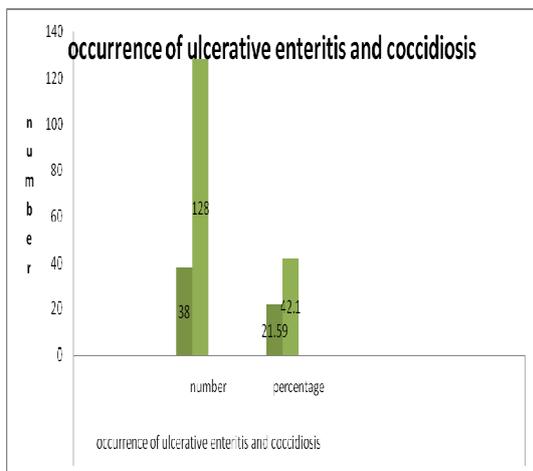
Table 1: Pathological Alterations in Intestine of Quails

Total observation in quails: 501 Total Intestines Affected: 304				
S N	Pathological Condition	No. of Affection	% Out of Affected 304 intestine	Overall % Out of 501
1	Enteritis	176	57.23	34.73
2	Coccidiosis	128	42.10	25.54

Graph 1: Pathological conditions observed in Quail



Graph 2: Number and Percentage of coccidiosis and ulcerative enteritis



DISCUSSION

Many researchers have reported the similar findings from all corners of the world on Japanese quails and on other poultry birds too, which are in accordance with the present findings. Bendel (1976) reported ulcerative enteritis in bob white quails due to bacterial invasions which caused ulcers in intestinal villi. In the present study 21.59% cases out of total observation, were of ulcerative enteritis. Kapoor *et.al.* (1980) reported enteritis in Japanese quails in Izatnagar, due to *Salmonella bareilly*. This study has also found 34.73% occurrence of enteritis. Ritter *et.al.* (1986) and Guy *et.al.* (1987) reported severe intestinal lesions and high mortality rate due to inoculation of *cryptosporidium*. The present study has confirmed intestinal lesions. Bell *et.al.* (2003) have reported ulcerative enteritis in quails, chicks and young turkeys and reported outbreak of ulcerative enteritis in chicks may follow outbreak of coccidiosis. Primary lesions were seen in the lower third of the small intestine; ceaca lesions in the intestine vary from petachial hemorrhage to ulceration. Similar findings correlates this with present findings. Srilatha (2003) reported 33.7% mortality in quails in Tirupathi. The birds were dull, depressed and necropsy revealed hemorrhage of intestinal mucosa due to *pasturella species*. Tell *et.al.*(2003) has reported infection of *Mycobactrium* in Japanese quails causing morbidity and mortality. Infected quails showed lesions in intestine. Yilmaz *et.al.*(2004) found gross lesions in intestine due to experimentally inoculated avian influenza virus H7N1 subtype. Zahar Ahmed Radi (2004) reported gross and histological lesions of enteritis in quails. Intestines has marked ulcers, hemorrhages, ulcerative enteritis was evident. Presence of *Eimeria* species was evident. The present study has also experienced similar findings.

In the present study, a total of 176 (35.12%) intestinal samples, were found affected with enteritis and 128 (25.54%) with coccidiosis, out of 501 total observations.

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REFERENCES

- Bell J.G., Tocher D.R., MacDonald F.M. and Sargent J.R., 2003. Ulcerative Enteritis: Introduction. Morck & Co. Inc. in cooperation with Merial Ltd.
- Bendel-RA Jr. (1976). A histopathologic and Immunofluorescence Microscopic study of the pathogenesis of ulcerative enteritis in bobwhite quail. A&M Univ. Texas, USA Dissertation Abstract_ International. 36, 13(8):3805–3806.
- Kapoor K.N., Chauhan H.V.S. and Gupta B.R., 1980. Epidemiological and pathological studies in outbreaks of *Salmonella bareilly* infection in chicks and quails. Indian-Veterinary- Journal., 57(7):536-538.
- Ritter G.D., Ley D.H., Levy M., Guy J. and Barnes H.J., 1986. Intestinal cryptosporidiosis and reovirus isolation from bobwhite quail (*Colinus virginianus*) with enteritis. Avian Dis., 30(3): 603-8
- Srilata C., Devi V.R., Sujatha K. and Ahmed M.N., 2003. An Outbreak of fowl cholera in Japanese quails *Indian Veterinary Journal*. 80(1):6-7, 3 ref.
- Tell L.A., Woods L., Foley J., Needham M.L. and Waker R.L., 2003. A Model of avian mycobacteriosis: Clinical and Histopathological findings in Japanese quails (*Coturnix coturnix japonica*) intravenously inoculated with *Mycobacterium avium*. Avian Dis., 47(2): 433-43.
- Yilmaz, Fethy, Necati Timurkoan and Fetiye, 2004. Coven. Histopathological findings of the Quail inoculated with avian influenza. A virus H7N1 subtype Int. Jour. Poultry Science. 3(12):764-767.
- Zahar Ahmad Radi, 2004. An epizootic of combined *Clostridium perfringens* *Eimeria Spp* and *Capilloric spp*. Enteritis and Histomonas spp. Hepatitis with *E. Coli* Septicemia in Bobwhite quails, *Int Jour Poultry Science*. 3(7): 438-441.