Scientific Works. Series C. Veterinary Medicine. Vol. LXI (2)
ISSN 2065-1295; ISSN 2343-9394 (CD-ROM); ISSN 2067-3663 (Online); ISSN-L 2065-1295

ANATOMOCLINICAL OBSERVATIONS IN REOVIROSIS OF BROILERS

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Abstract

Avian reovirus infection is prevalent in intensive poultry farming, especially in broilers, wich evolve with many anatomoclinical forms. The researches was carried out in a flock of 10500 broilers,from Cobb hybrid.

This flock was monitored until the age of 41 days, by clinical and anatomopathological exams, performed biweekly. The results were processed and graphically presented.

The tests performed were identified following anatomoclinical forms of reovirosis: arthritis- tenosynovitis, ascites, hidropericard, proventriculus inflammation, catarrhal enteritis and necrosis of the femoral head uni and bilateral. Arthritis- tenosynovitis appeared at the age of 19 days maintaining in a relatively constant frequency until the end of the experiment. Ascites occurred at the age of 26 days with a frequency of between 12.5% and 20%. The hidropericard appeared at the age of 26 days, with a frequency between 12.5% and 42.85%. Catarrhal enteritis was reported at the age of 12 days, with a maximum frequency of 57.14%. Femoral head necrosis was signaled from the age of six days in both forms(unilateral and bilateral). Unilateral necrosis had a frequency of 42.85% at the age of 41 days and bilateral had necrosis has the frequency of 71.42% at the age of 21 days. The results obtained showed reovirosis evolution in broilers, in several clinical forms, confirmation of the disease was demonstrated by the polymerase chain reaction-reverse transcriptase.

Key words: *avian reovirus, arthritis- tenosynovitis, proventriculus.*

INTRODUCTION

Avian reovirosis is an infectious disease, widespread in intensive poultry, especially broilers, which evolves with several anatomoclinical forms (Jones, 2013).

Avian reoviruses have been isolated from broilers with various clinical forms, such as: arthritis- tenosynovitis, malabsorption syndrome, respiratory disease, enteritis and conditions of immunosuppression (Cătană et al., 2008; Jones,2000; Jones, 2013).

The first strain of avian reovirus was isolated from the respiratory tract of birds with chronic respiratory diseases by FAHLEY and CRAWLEY, in 1954.

OLSON et al., in 1957, described arthritis and tenosynovitis in broilers, and in 1967 DALTON et al. proposed the term tenosynovitis for naming these conditions (Jones,2013; Van Der Heide L., 2013).

The malabsorbtion syndrome was officially described in 1978, in Netherlands by KOWENHOVEN named "runting syndrome" and VELTMAN et al., proposed in 1985, the "malabsorbtion syndrome," which has been accepted as the official name (Jones,2013; Van Der Heide L.,2013).

In broilers, the economic losses caused by reovirus infections are represented by mortality, non-economic chickens, high specific consumption, immunosuppression and secondary bacterial infections wich amplifies the mortality (Cătana et al., 2008; Jones,2013).

The researches were performed in order to determine the frequency of anatomoclinical forms, of avian reovirosis bird in a flock of broilers, where disease was diagnosed.

MATERIALS AND METHODS

The researches were performed in a flock of 10,500 broilers hybrid Cobb500, existing in a farm from the west of the country.

The flock was monitored from the age of 6 days, until the age of 41 days, by clinical and pathological exams performed biweekly.

The results were processed and graphically presented, and avian reovirus infection confirmation has been demonstrated by immunoassay test.

RESULTS AND DISCUSSIONS

Research conducted in the broiler flock, provided important results on the anatomoclinical evolution of avian reovirosis.
The frequency of pathological lesions is shown in table 1 and table 2.

Table 1. The frequency of pathological lesions in C1-C5

Lesions	C1	C2	C3	C4	C5
1.	26,66%	16,66%	16,66%	9,09%	71,42%
2.	0%	0%	0%	0%	0%
3.	0%	0%	0%	0%	0%
4.	6,66%	33,33%	16,66%	18,18%	28,57%
5.	0%	0%	0%	9,09%	0%
6.	33,3%	33,33%	16,66%	9,09%	14,28%
7.	40%	25%	16,66%	36,36%	71,42%

Table 2. The frequency of pathological lesions in C6-C10

Lesions	C6	C7	C8	C9	C10
1.	25%	37,50%	42,85%	40%	14,28%
2.	12,50%	12,50%	14,28%	20%	57,14%
3.	25%	12,50%	42,85%	13,33%	14,28%
4.	12,50%	25%	42,85%	20%	57,14%
5.	12,50%	12,50%	0%	6,66%	0%
6.	25%	37,50%	14,28%	26,66%	42,85%
7.	37,50%	25%	42,85%	26,66%	57,14%

Legend:1: Proventriculitis; 2. Ascites; 3. Hidropericard; 4. Catarrhal enteritis; 5. Artritis-tenosynovitis; 6. Unilateral femoral head necrosis; 7. Bilateral femoral head necrosis; C1-C10 – anatomopathological exams performed bewekly.

Arthritis and tenosynovitis appeared at 19 days with a frequency of 9.09% maintaining constant until the end of the experiment. Ascites occurred at the age of 26 days, with a frequency between 12.5% and 20%.
The hidropericard appeared in chickens aged 26 days with a frequency of between 12.5% and 42.85%, the maximum frequency is observed in chickens aged 33 days.
Proventriculus was reported as early as at the age of 6 days with frequency of 26.66% at the age of 21 days having the maximum frequency.
Catarrhal enteritis emerged at the age of 6 days having the frequency of 6.66% and increased progressively being maximum at the age of 33 days.
Femoral head necrosis has been reported from the age of six days so that the shape of unilateral and bilateral shape.
Unilateral femoral head necrosis had a maximum frequency in chickens aged 41 days (42.85%) and a minimum frequency at 19 days (9.09%).
Bilateral femoral head necrosis had the maximum frequency at the age of 21 days (71.42%) and a minimum frequency at the age of 14 days (16.66%).

CONCLUSIONS

The results obtained have shown the evolution of reovirosis in a broiler flock, since the age of 6 days. Anatomoclinical examinations carried out, have shown the following clinical forms: arthritis, tenosynovitis, ascites, hydropericardium, proventriculus, catarrhal enteritis, necrosis of the femoral head uni and bilateral.
Proventriculus and bilateral femoral head necrosis had the highest frequency.

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