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Detection of Specific Bursal Disease Antibody Titres on ELISA Test

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Abstract. The article includes the serological investigation about maternal and post vaccination level of specific antibodies titers against bursal diseases virus. With ELISA test was established the level of antibody titers of the chickens which was obtained from vaccinated parents and from chickens which was vaccinated with intermediary strain if vaccine " Ornibur".

It was established that in around 60% of samples the level of passive and after vaccination specific titers of antibody was between 1:1380 and 1:5794. This mention that in this chicken livestok have the infectious bursitis viruse circulation on the vaccination fone.

Keywords: Antibody, titer, infectious bursitis, vaccine strains, serum.

INTRODUCTION

Infectious bursal disease is an acute, highly contagious viral infection of young chickens. It was described first time by Cosgrove in 1926 and was referred to as" avian infectious nephritis" because the extremely kidney damage founding birds that succumbed to infection. At present are spread in all the poultry livestock's of the world, mostly in the regions with high concentration of the birds.

Studies over infectious bursal disease have a period more that 40 years. During this period many scientists and investigation was done [1, 3, 5, and 6].

Till this moment there are actually the epidemiologically investigations, methods of generally prophylaxy and eradication, vaccination programs. There was established a difference between pathogenesis isolated serotypes from European and Asiatic continents.

At the moment the infectious bursal disease are the most dangerous and important infectious disease of chickens [2, 4]. The economical lost are important which included the lost of body white and ovrexpenditure of the feed.

The object of these investigations was to establish the level of specific titers of antibody for bursal disease virus from chickens were was established the circulation of velogenic virus and post vaccination immunologic efficacy of vaccine " Ornibur".

MATERIALS AND METHODS

The serum samples was collected from poultry farm " Abaclia " and was delaminated in the Republican Veterinary Diagnostic Center on ELISA test with by traditional method using the test Kit Laboratory IDEXX, SUA.The absorbtion index was 650 nm. For considering the test valid the diference between negative and positive control should be not more then 0.075. The reabsorbtion parametres of negativ control should be less or equal 0.150.

The sampeles with the absorbtion index less then 0,20 is considering negative.

RESULTS AND DISCUSSION

In table nr1 is presented the results of serological investigation for establishing the specific titers of passive antibody on chickens which was obtained from vaccinated parents. The necessity of investigation was the increase the number of dead chickens in cooperation with the chickens from the anther buildings. On necropsy, the characteristically modification was the edema of Bursa of Fabricius, and hemorrhagic legions on skeletal musculature

Tab.1

The level of passive antibody titers on broiler chickens obtained from vaccinated parents

Nr. simple	Vaccine strain	Age of vaccinated berds	Chicken age	Filter(560 nm)	S/P Absorbtion index	Antibody level
1	-	-	-	0,1415		PC
2	-	-	-	0,1672		PC
3	-	-		0,0475		NC
4	-	-	-	0,0465		NC
5	Ornibur	150 zile	5 zile	0,2281	1,6870051	3340
6	Ornibur	-//-	-//-	0,2857	2,2235678	4402
7	Ornibur	-//-	-//-	0,1556	1,0116442	2003
8	Ornibur	-//-	-//-	0,1865	1,2994877	2572
9	Ornibur	-//-	-//-	0,0436	-0,03167	62
10	Ornibur	-//-	-//-	0,1905	1,336749	2646
11	Ornibur	-//-	-//-	0,1213	0,692129	1370
12	Ornibur	-//-	-//-	0,1214	0,69306	1372
13	Ornibur	-//-	-//-	0,258	1,965533	3891
14	Ornibur	-//-	-//-	0,1753	1,195156	2366
15	Ornibur	-//-	-//-	0,1478	0,938985	1859
16	Ornibur	-//-	-//-	0,1816	1,253843	2482
17	Ornibur	-//-	-//-	0,0996	0,48999	970
18	Ornibur	-//-	-//-	0,1572	1,02655	2032
19	Ornibur	-//-	-//-	0,1328	0,79925	1582

The serum samples were collected from the 5 days age chickens. The maternal livestock was vaccinated with the intermediate vaccine strains “Ornibur”. It was established that from 15 samples, 14 samples was positive. The antibody levels variation was between 1: 970 and 1:4402. In more than 50% of the samples the levele of antibody titres was haere than 1: 2003.

In table nr2 is presented the results of serological investigation for establishing the specific post vaccination titers of antibody. The chickens were vaccinated with vaccine “Ornibur”, two times at the age 12 and 22 days. The serum samples were delaminated of the age of the chickens -30 days.

Tab. 2

The immunological efficacy of intermediate strain of vaccine " Ornibur

Nr. simple	Vaccine strain	Age of vaccinated berds	Chicken age	Filter(560 nm)	S/P Absorbtion index	Antibody level
1	-	-	-	0.278		PC
2	-	-	-	0.2882		PC
3	-	-		0.0566		NC
4	-	-	-	0.0741		NC
5	Ornibur	I vac.-12 zile IIvac.-22 zile	30 zile	0.5315	2.140758	4238
6	Ornibur	-//-	-//-	0.4315	1.681515	3329
7	Ornibur	-//-	-//-	0.446	1.748106	3461
8	Ornibur	-//-	-//-	0.3934	1.506544	2982
9	Ornibur	-//-	-//-	0.5546	2.246843	4448
10	Ornibur	-//-	-//-	0.4684	1.850976	3664
11	Ornibur	-//-	-//-	0.5052	2.019977	3999
12	Ornibur	-//-	-//-	0.3783	1.437199	2845
13	Ornibur	-//-	-//-	0.3405	1.263605	2501
14	Ornibur	-//-	-//-	0.3513	1.313203	2600
15	Ornibur	-//-	-//-	0.2172	0.697359	1380
16	Ornibur	-//-	-//-	0.6988	2.90907	5759
17	Ornibur	-//-	-//-	0.4091	1.57864	3125
18	Ornibur	-//-	-//-	0.4017	1.544661	3058
19	Ornibur	-//-	-//-	0.4169	1.614466	3196
20	Ornibur	-//-	-//-	0.4865	1.934099	3829
21	Ornibur	-//-	-//-	0.2691	0.935706	1852
22	Ornibur	-//-	-//-	0.7026	2.926521	5794
23	Ornibur	-//-	-//-	0.3723	1.409644	2791
24	Ornibur	-//-	-//-	0.6223	2.55775	5064

As resulted from the table nr. 2 all 20 serum samples were positive. The antibody levels variation was between 1:1380 and 1:5794. In more than 60% of the samples the levele of antibody titres was higher than 1: 3000.This haere level of antibody titres mentioned that on the poultry livestock's there are the high pathogenic infectious bursitis virus circulation.

CONCLUSIONS

1. The administration of the vaccine "Ornibur" two times at the age 12 and 22 days stimulated the optimally level of post vicinal antibody titers.
2. The antibody levels variation was between 1:1091 and 1:4666. In more than 70% of the samples the levele of antibody titres was higher than 1: 2000.This haere level of antibody titres minth that on the poultry livestock's there are the high pathogenic infectious bursitis virus circulation.

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