

INFECTIONS INVOLVED IN RESPIRATORY DISEASES IN BROILER AT DIFFERENT AGES

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Introduction

Control of infectious diseases is essential for the production of healthy poultry flocks. Vaccination programs associated with good management practices, including biosecurity measures, are adopted to reduce the risk of infections. Any infection can cause clinical or subclinical disease resulting in immunosuppressive conditions, include Marek’s disease vírus (MDV), Aviadenovirus (FAdV), reovirus (REO), avian pneumovirus (APV), chicken infectious anemia virus (CIAV), infectious bronchitis virus (IBV), among others. Minimizing immunosuppression and its impact is an important strategy for success in the broiler industry (Fussell, 1998; Schat & Skinner, 2014; Umar et al., 2016).

Objective

The objective of this study was to evaluate the main infections involved in flocks of broiler chickens with respiratory symptoms from two companies in Brazil.

Material and Methods

Samples of thirty-four broiler flocks from two Brazilian companies with symptoms of sneezing, rales and coryza and with macroscopic changes of aerosacculitis, tracheitis and presence of mucus in the trachea were investigated for 13 infections (MDV, FAdV, REO, APV, CIAV, IBV, Laryngotracheitis (ILT), Reticuloendotheliosis (REV), hemorrhagic enteritis (HE), micoplasmosis – MS and MG, Infectious Coryza), that can cause respiratory diseases or be a gateway for other agents due to immunosuppression. The flocks were divided into three main production ages: 1 - 14, 15 - 28 and 29 - 46 days of age. Diagnostics were performed by molecular methods (PCR or RT-PCR) in the GD animal health laboratory.

Results

The results are found in Tables 1 and 2. Of the eight flocks analyzed aged 1 to 14 days, 7 were positive for CIAV, 4 for IBV, and 5 for REO. Of the 16 flocks analyzed from 15 to 28 days, 11 were positive for CIAV, 14 for MDV, 3 for IBV, 1 for APV and 8 for REO. As for flocks between 29 and 46 days (10 flocks), 9 were positive for CIAV, 10 for MDV, 3 for IBV, 5 for APV and 3 for FAdV. The typification of IBV showed predominance for the new variant found in Brazil belonging to the lineage GI-23. Diagnoses for CAV and MDV were from field variants. APV typing was for subtype B. Chicken flocks were positive for the immunosuppressive agents and respiratory infections. These diseases are involved in large economic losses in the industry that involve high mortality in the early stages, morbidity, and drop in production, such as weight gain and food conversion. In addition, recovered chickens can cause serious economic losses to slaughterhouses with a high condemnation rate (Umar et al., 2016). The control of these infections is essential to produce a good quality and low cost product (chickens), and this is generally achieved by strategic and efficient vaccination programs in combination with good management practices, including biosecurity measures to reduce the risk of infection (Schat & Skinner, 2014).

Conclusion

Chicken flocks were positive for the immunosuppressive diseases MDV, CIAV, REO and FAdV and respiratory infections IBV and APV. The key to preventing infections is maintaining adequate environmental conditions and vaccination programs, reducing nutritional stress, and maintaining high standards of biosecurity at all ages. With the right procedures, diseases can be minimized or eradicated, and broiler performance and profitability will be improved.

Table 1. Main viral infections involved in chickens

Day of age	Avian Influenza	CIAV	Marek HVT	ILT	IBV	IBV typing	SHS	SHS Typing	NDV	REO	FAdV	HEV	ALV	REV
1 a 14	0/8	7/8	8/8	0/8	4/8	3 - VAR2/ 1 – no type	0/8	-	0/8	5/8	0/8	0/8	0/8	0/8
15 a 28	0/16	11/16	14/16	0/16	3/16	2 - VAR2/ 1 – no type	1/16	B	0/16	8/16	0/16	0/16	0/16	0/16
29 a 46	0/10	9/10	10/10	0/10	3/10	VAR2	5/10	B	0/10	0/10	3/10	0/10	0/10	0/10

Table 2. Main bacterial infections involved in chickens

Day of age	Coryza	MG	MS
1 a 14	0/8	0/8	0/8
15 a 28	0/16	0/16	0/16
29 a 46	0/10	0/10	0/10

References

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