



Scholars Research Library

Der Pharmacia Lettre, 2016, 8 (12):260-262  
(<http://scholarsresearchlibrary.com/archive.html>)



## Field outbreak of chronic respiratory disease in a broiler farm in Egypt Governorate

Kh. M. Elbayoumi<sup>1</sup>, Nagwa S. Rabie<sup>1</sup> and Mona S. Zaki<sup>2</sup>

<sup>1</sup>Department of Poultry Diseases, National Research Centre, Dokki, Giza, Egypt

<sup>2</sup>Hydrobiology Department, National Research Centre, Dokki, Giza, Egypt

---

### ABSTRACT

Ninety to one hundred and fifty dead birds daily for five successive days were recorded in a broiler farm with total 15000 chicken (32 day-old) in EL- Ayate, Giza Governorate in Egypt. A history of sudden death with respiratory and diarrhoeal signs with a sharp decrease in feed consumption and water intake. Post mortem lesions were air sacculitis, perihepatitis, pericarditis with caziated materials in pericardial sac and perihepatic capsule, nephritis, trachitis and haemorrhagic lesions in cecal tonsils. All vaccination programmes were followed in the farm except missed one gape in using live Newcastle disease (ND) vaccination intervals. This case controlled as the mortality decreased sharply after five days of using specific antibiotic and emergency vaccination. Etiology of this outbreak suggested to be chronic respiratory disease complex which was a combination of viral infection (ND) with a secondary bacterial infection (*mycoplasma spp.*) as a complicated agent.

**Key words:** Poultry, Mortality, Newcastle Disease, Mycoplasma.

---

### INTRODUCTION

Newcastle disease (ND) is caused by the ND virus (NDV) and it is one of the most important diseases that affects birds, in particular chickens. The epizootic nature of the disease has caused severe economic losses in the poultry industry worldwide [1].

ND is caused by virulent strains of avian paramyxovirus type 1 (APMV-1) serotype of the genus Avulavirus subfamily Paramyxovirinae, family Paramyxoviridae NDV has great variation in pathogenicity for chickens. [2&3]. The clinical signs in infected birds were vary widely especially with some factors as: the virus, host species, age of host, infection with other organisms, environmental stress and immune status.

High mortality with comparatively few clinical signs. Thus, the clinical signs are variable and influenced by other factors. Examination of tracheal tissue as well as organs or tissues that are grossly affected or associated with the clinical disease. Samples from dead birds should consist of oro-nasal swabs, samples collected from lung, kidneys, intestine (including contents), caecal tonsils, spleen, brain, liver and heart tissues. These may be collected separately or as a pool, although brain and intestinal samples are usually processed separately from other samples.

Vaccination against Newcastle disease aimed for preventing morbidity and mortality loss [4], types of vaccine used against Newcastle disease either inactivated or live vaccine formulated from low virulent strains such B1 and Lasota [5].

### MATERIALS AND METHODS

#### Samples

Ninety to one hundred and fifty dead or sick birds received from a broiler farm with total 15000 chicken (32 day-old) in EL- Ayate, Giza government in Egypt. with a history of sudden death

Samples from these birds were subjected to routine post-mortem examination and the gross lesions .All results were recorded.

**Vaccination programme** which followed in this farm was:

**Table 1; Vaccination programme which was used in the broiler farm**

Number	Age	Vaccine
1-	6 day -old	Live combined vaccine (ND & Infectious bronchitis)
2-	10 day -old	Inactivated ND – AI vaccine
3-	14 day -old	Live vaccine(Gumboro Disease)
4-	18 day -old	Live vaccine(ND)

#### Treatment&control

The control of this case was done by using:

- 1- Emergency vaccination for ND by using live Lasota vaccine eye drop
- 2- Supporting treatment of kidney and liver heparinol liquid
- 3- Mucolytic and respiratory supporting drug (Mento plus liq.0.5ml/Litre)
- 4- 4-Antibiotic for Mycoplasma and complicating agent (Tylosin in dose 1 gm/Litre drinking water)

### RESULTS AND DISCUSSION

There was history of sudden death and the recorded clinical signs were respiratory and diarrhoeal signs with a sharp decrease in feed consumption and water intake.in [6].

The gross lesion changes in these dead birds included :air sacculitis, perihepatitis, pericarditis with caziated materials in pericardial sac and perihepatic capsule , nephritis, trachitis and haemorrhagic lesions in cecal tonsils. The postmortem lesions of fresh dead and morbid carcasses were diagnosed as typical of NDV with secondary bacterial infection (suggestive Mycoplasma spp.) [7].

In spite of use of live vaccine in this flock against Newcastle disease virus at 18 days of age unfortunately infection occurs at 30 days of age this may be due to that last vaccination was at 18 days of age and due to indemecity of virulent NDV in Egypt which is the cause of continues field challenge which lead to diminish of protective antibody titer and disease occurs , this was parallel with result found by **Adu et al. [8]** as the duration of immunity depends on the vaccination programme chosen. Moreover one of the most important considerations affecting vaccination programmes is the level of maternal immunity in young chickens, which may vary considerably from farm to farm, batch to batch, and among individual chickens. For this reason,one of several strategies is employed.

Clinical symptoms including tracheal rales, nasal discharge and coughing were suggestive for bacterial complication [9] Lesions of pericarditis, perihepatitis and airscculitis are strongly suggestive for Mycoplasma spp. As a complicating agent followed virulent Newcastle disease infection [10].

Emergency vaccination with live Newcastle vaccine together with treatment with antibiotic combination for bacterial complication was effective for control this outbreak and control mortalities which is assist our diagnosis for this case

### REFERENCES

- [1] Mayo MA **2002**. *Archives of Virology*, 147:1655–1656.

- [2] Alexander DJ 2003 Newcastle disease, other avian paramyxoviruses, and pneumovirus infections, In: Saif YM, Barnes HJ, Glisson IR, Fadly AM, McDougald JR and Swayne DE (Ed.). Disease of Poultry, 11th ed. Iowa State University Press, Ames; **2003**. pp: 63-92
- [3] DJ Alexander, Senne DA 2008a. Newcastle Disease, Other Avian Paramyxoviruses, and Pneumovirus Infections. *In: Diseases of Poultry, Twelfth Edition*, Saif Y.M., Fadly A.M., Glisson J.R., McDougald L.R., Nolan L.K. & Swayne D.E., eds. Iowa State University Press, Ames, Iowa, USA, 75–116.
- [4] DR Kapczynski, King, DJ **2005**. *Vaccine*, 23:3424-3433.
- [5] TA Khan, CA Rue, SF Rehmani, A Ahmed, JL Wasilenko, PJ Miller, Afonso, CL **2010**. *J Clin Microbiol.* 48:1892-1894.
- [6] L Susta, CL Miller, CL Afonso, Brown CC **2011**. *Vet. Pathol.* 48:349-360.
- [7] Beard CW **1998**. Velogenic Newcastle disease In:foreign Animal Diseases: the gray book. Ed 6. Part IV. Richmond, VA: US Animal Health Association press.
- [8] FD Adu, O Tomori, Oyejide A **1990**. *Preventive Veterinary Medicine*, 10:131-135.
- [9] Kleven SH **1998**. *Poult. Sci.* 77:1146-1149.
- [10] DM Hawley, J Grodio, S Frasca, L. Kirkpatrick, Ley DH. **2011**. *Avian pathol.* 40:321-327.