

PATHOLOGICAL STUDY OF RESPIRATORY SYSTEM IN DUCKS IN MOSUL CITY

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(Received 26 April 2019, Revised 29 June 2019, Accepted 14 July 2019)

ABSTRACT : This study is conducted to determine the respiratory tract infections in ducks, A total duck collected 40 birds from different area in Mosul province, The respiratory tract very important in poultry and in duck although there were no clinical signs, There were many infections was occurs within the respiratory tract, mainly viral infection, such as highly pathogenic Avian Influenza strain, bacterial infection such as E. Coli, parasite infection such as nematode, histopathological examination of trachea revealed sloughing of mucosa and accumulation of cellular debris, in lung histopathological examination showed interstitial pneumonia and infiltration of inflammatory cell specially heterophile, mononuclear cell, increase in the thickness of alveolar septa and most of the cases shows, there was an emphysema in the lung tissue and severe hemorrhage.

Key words : Pathological study, respiratory system, ducks, Mosul city.

INTRODUCTION

The avian species demands high energy during flying, that lead to complex respiratory tract development, for facilitating gases exchange, by high efficacy with rapid action when we compared with other mammalian species, (Colin G.Scans, 2015).

The respiratory system start at nares opening which includes the nares chambers, then follow by larynx, trachea, syrinx, lung and the last part is the air sacs, also there is association sinuses and glands (Maina, 2015).

The male duck's syrinx has been modified to form a structure like a bulla, it is bony structure present in the lateral side it is called syringeal bulla or may also be called (bulla syrigis), it is divided in to two unequal cavities, large and small, (Tahseen Abdul-Aziz *et al*, 2016) (the lung is following the trachea which is firm thick structure.

The avian lung start from the tubular structure that called primary bronchi, then followed by the secondary bronchi, and then there are tertiary bronchi sometimes called Para bronchi, it is the smallest one, in this structure gases exchange occurring, it is surrounded by blood capillaries called Air blood capillaries bed, (Mania.JN and West JB, 2005, JhnN.Maina, 2017).

There are different cases of respiratory tracts infections by viruses of ducks such as, Avian Influenza

virus, Avian paramyxovirus, duck virus hepatitis (types 1, 2, 3), duck virus enteritis it also called Duck plaque, also infected with a bacterial infection such as Clostridium botulinum, Avian tuberculosis, Colibacillosis (Dziva.f. and Mp Stevens 2008) and also a fungal infection like Aspergillosis spp and also there is a Chlamydia infection (Peter R Woolcock and Martine Boutianne 2012).

MATERIALS AND METHODS

40 local ducks were collected of different ages, and after post mortem, the respiratory system first examined macroscopically of trachea and lung, and then for histopathological studies the sample collected include a piece of trachea and lung, fixed in buffer formalin 10% and stained with eosin and hematoxylin stain, then examined under the light microscope (luna, 1978), (salmenson, 2007), (J. D Bancroft *et al*, 1996).

RESULTS AND DISCUSSION

Gross examination

In trachea : despite the duck was look normal clinically, after post mortem examination the trachea in some case showed petechial hemorrhage in the tracheal wall, figure(1).

Also the lung : showed normal color and in some cases present of markedly change in color were seen due to congestion. pink to dark-red foci area present in the lung. with red hepatization figure(2)