

Identification and molecular characterization of *Avibacterium paragallinarum* isolated from layer chicken in Egypt

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Abstract

In this study 500 dead or ailing layer chickens from different farms in El-Sharkia, El-Kaliubia, El-Fayoum, El-Giza, El-Menia, El-Behira and El-Monofia suffering from signs of infectious coryza were examined clinically.

The examined chickens showed severe respiratory signs as well as a marked drop in egg production. Postmortem examination revealed conjunctivitis, infra-orbital sinusitis and nasal discharge. Sinus exudates samples were taken and subjected to extensive bacteriological and molecular examination, which included colony morphology, biochemical identification, animal pathogenicity in embryonated chicken eggs and molecular characterization.

The result was isolation and identification of *Avibacterium paragallinarum* using PCR primers specific to the microorganism was used for confirmation of the biochemical results. Serotyping using PCR based protocol depending on the variation between the different serovars in the HTM region resulted in 3 of isolates were Page's serovar A and 2 of the isolates were Page's Serovar C.

This study reveals that serovars A and C are the most prevalent in Egypt and hence those 2 serovars should get more attention concerning the development and production of new vaccines. The study proves also that although the regular vaccination against infectious coryza the disease still constitute a problem for the egg production industry in Egypt.

Key words: *Avibacterium paragallinarum*, Infectious coryza, PCR