Cairo University

Faculty of Veterinary Medicine

Department of Microbiology

Preparation and Evaluation of a Combined Bivalent Vaccine Against Avian Pasteurella and Mycoplasma Infections in Chickens

A thesis presented by

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(Bacteriology, Immunology, Mycology)

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Abstract

The present work was planned to study the immune response of chickens vaccinated with locally prepared combined inactivated vaccine of *M. gallisepticum* and *P. multocida* adjuvanted with Montanide ISA70. 150, 4 weeks old specific pathogen free chickens were divided into five groups, the 1st group was vaccinated with *P. multocida* vaccine, the 2nd group was vaccinated with *M. gallisepticum* vaccine, the 3rd group was vaccinated with combined *M. gallisepticum* and *P. multocida* vaccine, the 4th group was vaccinated with imported *M. gallisepticum* vaccine and the 5th group was kept unvaccinated as a control group. The prepared vaccines were evaluated by determination of the cellular immunity by heterophils/lymphocytes ratio and measurement of nitric oxide in the supernatant of macrophage, and evaluation of the humoral immunity by indirect haemagglutination, haemagglutination inhibition and ELISA techniques. The potency of the vaccines were evaluated by the challenge and passive mouse protection tests against the challenge with the virulent strain of *M. gallisepticum* (Eis3-10 strain) and *P. multocida* (serotypes A and D). The results showed that combined inactivated vaccine of *M. gallisepticum* and *P. multocida* adjuvanted with Montanide ISA70 induced high and long duration of antibody response and significant protection against the challenge with virulent strain of *M. gallisepticum* (Eis3-10 strain).

Keywords: *M. gallisepticum*, *P. multocida*, inactivated vaccine, chickens, Montanide ISA70.

My sincere special dedication to:

My Mother,

My Father,

My Sisters

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List of contents