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ANTIBODY RESPONSE IN EARLY HATCHED CHICKS AS INFLUENCED BY VACCINATION AND DIFFERENT MATERNAL ANTIBODY LEVELS

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SUMMARY

This study evaluated the antibody response to ND and SRBC of early hatched chicks as influenced by their maternal immune capacity and early vaccination. Chicks of the current study have been produced using 32 weeks old three parent groups of local Saudi chickens which have been sorted in a previous experiment into high (H) , low (L) and a random control group (C) according to their primary antibody response at 7d post im injection with 1ml of 15% SRBC. Parents were vaccinated lately at 31 weeks of age against ND and secondary exposed to SRBC antigen at 32 wk of age. Three hatches from each group were obtained. Half of each hatch vaccinated at 3 days of age with ND vaccine (HB1) and SRBC. The other half left without any vaccination. Antibody titer for all chicks against ND and SRBC were evaluated at 6, 9, and 12 days of age. Body weights were recorded weekly and weight gain then calculated. The L group chicks body weight, and weight gain, were significantly (P< 0.05) higher than H group at all measuring point. The unvaccinated chicks of H group were significantly (P< 0.05) higher than L group for ND titer at all measuring point and for SRBC at the first two measuring points. The current study demonstrated that the chick's antibody response was influenced by the maternal antibody level for SRBC and ND antigen. Results of body weight and weight gain emphasized the concept of allocation of resources between the different needs of one bird. The study spotlighted the importance of considering maternal antibody level before designing a vaccination program for early hatched chicks.

Keywords: Newcastle disease, sheep red blood cells, maternal immunity, body weight