

Correlation Between Antibody Titer with AST and LDH Levels in IBD-vaccinated Broiler Chickens

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SUMMARY. The current study is designed to look for an early physiological biomarker in response to the vaccine in broiler chickens. Physiological parameters, Aspartate aminotransferase (AST), Lactate dehydrogenase (LDH), and Albumin, were investigated. Two distinct varieties of the commercial Gumboro vaccine, known as intermediate and intermediate plus Gumboro vaccines, were responsible for eliciting the immunological response. A total of one hundred Ross 308 chicks were randomly assigned to one of three groups: the control group, which did not receive any vaccinations; the intermediate Gumboro vaccine group. Just at age of 10 days, the chicks were given a vaccine, and blood samples were taken at 0, 12, and 24 h, as well as 10 and 15 days after the immunization. Both vaccinations produced immunological responses and increased antibody titer at $p < 0.05$ compared to control group. LDH was significantly higher in both vaccinated groups at 12 and 24 hs post-vaccination compared to the control group. In spite of this, the intermediate group scored higher than the intermediate. The response of the AST and albumin were significantly lower than the control group levels at 12 h post vaccination in the intermediate vaccine group. LDH and AST could be considered as an indicator for an early evaluation of vaccine.

RESUMEN. El estudio actual está diseñado para buscar un biomarcador fisiológico temprano en respuesta a la vacuna en pollos de engorde. Se investigaron los parámetros fisiológicos, aspartato aminotransferasa (AST), lactato deshidrogenasa (LDH) y albúmina. Dos variedades distintas de la vacuna comercial de Gumboro, conocidas como vacunas intermedia e intermedia más Gumboro, fueron responsables de provocar la respuesta inmunológica. Un total de cien pollitos Ross 308 fueron asignados al azar a uno de tres grupos: el grupo de control, que no recibió ninguna vacuna; el grupo intermedio de vacunas de Gumboro. Apenas a los 10 días de edad, los pollitos recibieron una vacuna y se tomaron muestras de sangre a las 0 horas, 12 horas y 24 horas, así como a los 10 y 15 días después de la inmunización. Ambas vacunas produjeron respuestas inmunológicas y aumentaron el título de anticuerpos a $p < 0,05$ en comparación con el grupo de control. La LDH fue significativamente mayor en ambos grupos vacunados a las 12 y 24 h posteriores a la vacunación en comparación con el grupo de control. A pesar de esto, el grupo intermedio puntuó más alto que el intermedio. La respuesta de la AST y la albúmina fueron significativamente más bajas que los niveles del grupo de control a las 12 horas posteriores a la vacunación en el grupo de vacuna intermedia. LDH y AST podrían considerarse como un indicador para una evaluación temprana de la vacuna.

KEY WORDS: antibodies, AST, broiler chickens, infectious bursal disease, LDH.

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