No protection in chickens immunized by the oral or intra-muscular immunization route with Ascaridia galli soluble antigen - DTU Orbit (12/12/2018)

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In chickens, the nematode Ascaridia galli is found with prevalences of up to 100% causing economic losses to farmers. No avian nematode vaccines have yet been developed and detailed knowledge about the chicken immune response towards A. galli is therefore of great importance. The objective of this study was to evaluate the induction of protective immune responses to A. galli soluble antigen by different immunization routes. Chickens were immunized with a crude extract of A. galli via an oral or intra-muscular route using cholera toxin B subunit as adjuvant and subsequently challenged with A. galli. Only chickens immunized via the intra-muscular route developed a specific A. galli antibody response. Frequencies of γδ T cells in spleen were higher 7 days after the first immunization in both groups but only significantly so in the intra-muscularly immunized group. In addition, systemic immunization had an effect on both Th1 and Th2 cytokines in caecal tonsils and Meckel's diverticulum. Thus both humoral and cellular immune responses are inducible by soluble A. galli antigen, but in this study no protection against the parasite was achieved.

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