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SUITABILITY OF SUBCUTANEOUS DAY-OF-HATCH VACCINATION OF BROILERS WITH LIVE INFECTIOUS BURSAL DISEASE (IBD) VACCINES

Objective: In the present study broilers were **IBD vaccinated by subcutaneous route** at day-old D78 or 228E **live vaccines strains** or an **immune complex vaccine**, then **challenged** with a **very virulent IBD virus** at different time points, in order to evaluate the **efficacy of the vaccination protocols** and their impact on the **immune response** to other vaccines commonly used in the field.

Materials and Methods:

At day of hatch birds were divided in groups and IBD vaccinated with **D78 vaccine strain** (group A), **228E vaccine strain** (group B), an **immune complex vaccine** (group C) or remained **unvaccinated** (group D). Groups A, B and C, were **also vaccinated** subcutaneously for **Infectious Laryngotracheitis (ILT)** and for **Infectious bronchitis (IB)**. Ten birds per group were weekly bled to determine IBD, IB and ILT antibody titres. At different time points after the vaccination, six to ten birds per group were moved to poultry isolators (Figure 1) and **challenged with a IBD very virulent strain**. A group of unvaccinated birds remained unchallenged.

Birds were monitored for **clinical signs** and **bursa/body weight ratio** were post-mortem calculated. **Histopathology** and **flow cytometry** for the determination of immune cells populations were performed on bursa samples. Data were statistically analysed.

Results and conclusion:

Live vaccines 228E or D78 administered subcutaneously at day-old **protect chickens from bursa lesions** (Figure 2 and 3) and **do not affect the humoral immune response to ILT and IBV vaccines**. Flow cytometry analysis show an **increased T cells population (CD3+)** in all groups at **33 days of age** and **only in 228E vaccinated group also at 22-26 days of age**.



Figure 1: challenge of birds.

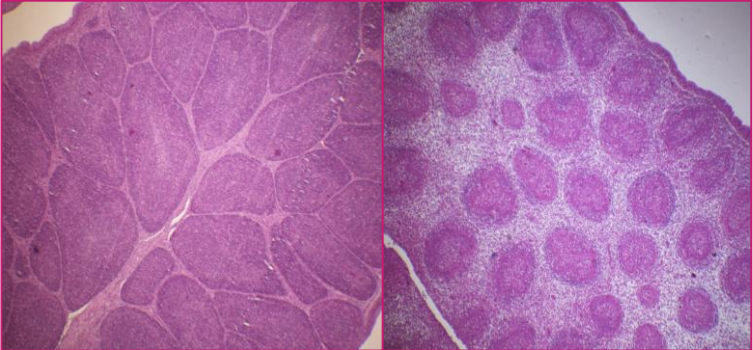


Figure 2: histology of normal (left) and infected (right) bursa of Fabricious.



Figure 3: normal (left) and infected (right) bursa of Fabricious.

Future proposal: efficacy of IBDV vaccination protocols will be evaluated by field longitudinal studies.