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CORRELATION OF FEATHER PULP LESIONS IN CHICKENS INOCULATED WITH HERPESVIRUS OF TURKEYS WITH RESPONSE OF MAREK'S DISEASE

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In order to clarify the correlation of feather pulp lesions (FPL) in chicken vaccinated with herpesvirus of turkeys (HVT) with Marek's disease (MD) response, the following four groups were compared. Group A: inoculation with HVT at hatching; group B: treatment of 3-day embryo with Testosterone propionate (TP) and inoculation with HVT at hatching; group C: inoculation of 18-day embryo with HVVT; group D: non-inoculation.

There were two kinds of FPL in the HVT-inoculated chickens 2-6 weeks of age: L lesion=perivascular small lymphocyte infiltration, which was frequently seen in 2-6-week-old chickens; P lesion=plasma cellular infiltration, which was occasionally seen in 4-6-week-old birds. Occurrence of L lesion was also noted in HVT-uninoculated chickens but was significantly higher in the HVT-inoculated groups A and B. On the contrary, incidence of L lesion in group C birds (inoculated with HVT at embryo stage) was significantly low.

The chickens were challenged with MD virus at 3 or 6 weeks of age. Fifty-five chickens were affected with MD by 15 or 18 weeks of age. MD-affected birds were classified into three groups based on necropsy findings: lymphoma-positive, 35 birds; nerve lesion-positive, 3 birds; so-called "early-mortality syndrome", 17 birds. Interestingly, incidence of L (and P) lesion, which was seen prior to challenge with MD virus, was related closely with MD response, that is, groups C and D with relatively low incidence of L lesion showed significantly higher mortality from MD than groups A and B with higher incidence of L lesion. Individually, L lesion-negative chickens (without evidence of L lesion up to 3 or 6 weeks of age) showed a higher incidence of MD-associated nuclear-inclusion formation in the feather-follicle epithelium, higher mortality and higher incidence of "early-mortality syndrome" than L lesion-positive chickens. L lesion-positive birds were relatively resistant to MD, but almost all of the MD-affected chickens had lymphoma in the viscera.