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EFFECT OF *IN OVO* VACCINATION WITH HERPESVIRUS OF TURKEY
ON THE PATHOGENESIS OF MAREK'S DISEASE

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Effect *in ovo* vaccination with herpesvirus of turkey (HVT) on the pathogenesis of Marek's disease (Experiments I, II & IV) was investigated patho-morphologically.

1) In short term experimental observations (70 days in Experiment I and 91 days in Experiment II), chickens vaccinated with HVT as 18-day embryos had much greater resistance to challenge of Marek's disease virus (MDV) than those vaccinated at hatching.

2) In long term field observations (28 and 31 weeks in Experiment IV), chickens vaccinated with HVT as 18-day embryos were poorly protected against MDV infection as compared to the chickens vaccinated at hatching, contrary to the results of Experiment I (MDV inoculation) and II (MDV contact exposure).

3) Histopathological evidences which may explain, to some extent, the discrepancy between the results of experimental and field observations, were obtained.

i) In Experiment III (MDV non inoculation), chickens vaccinated with HVT as 18-day embryos (III-A) had slight cytolytic lesions in the thymus and bursa of Fabricius on the early days after hatching. The incidence and extent of such cytolytic lesions in these chickens were slightly higher than those in the chickens vaccinated at hatching (III-B).

ii) In Experiment I, incidence of the initial cytolytic lesions in the lymphoid organs of the chickens vaccinated at hatching (I-B) was inhibited in comparison with that in the unvaccinated chickens (I-C). On the other hand, incidence of the initial cytolytic lesions in chickens vaccinated with HVT as 18-day embryos (I-A) was not inhibited, but was the same as that in unvaccinated chickens (I-C).

iii) Incidence of nuclear-inclusion (NI) formation in the feather-follicles epithelium in chickens vaccinated with HVT as 18-day embryos actively persisted in comparison with that in chickens vaccinated at hatching in Experiment I and IV. In Experiment II, incidence of NI formation in the chickens vaccinated with HVT as 18-day embryos (II-A) was similar to that in the chickens vaccinated at hatching (II-B).