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Title	A STUDY OF MATERNAL IMMUNITY IN CHICKS DERIVED FROM FLOCKS NATURALLY INFECTED WITH AVIAN ENCEPHALOMYELITIS VIRUS (AEV)
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5) There was no influence on the blood cells and components of the serum protein containing antibodies electrophoretically even in recipients implanted with fresh mare cortical bone grafts which were not processed with lower antigenicity. But there were marked differences among four groups of grafts in their absorption rates and the formation of callouses around the grafts, osseal fusion between the graft and the recipient. Both of these phenomena were ranked in order of the deproteinized, frozen, boiled and fresh grafts.

**A STUDY OF MATERNAL IMMUNITY IN CHICKS DERIVED  
FROM FLOCKS NATURALLY INFECTED  
WITH AVIAN ENCEPHALOMYELITIS VIRUS (AEV)**

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A study was carried out to confirm the development of maternal immunity in chicks derived serially from 2 flocks after the drop of egg production caused by avian encephalomyelitis (AE) infection and the persistence of the immunity. Moreover, the relationship between the maternal immunity and the resistance to AEV and the immunological responses of the chicks were investigated.

The results obtained from this study were as follows:

1) Ten one-day-old chicks were bled on every weekly hatch during the period from the first week of the depressed egg production due to AE infection to 29th. Pooled serum of the chicks was tested by the serum neutralization test. Positive antibody titer, neutralization indices, were detected in chicks of the third hatch for the first time and had persisted constantly from the seventh to the 29th hatches.

2) The maternal neutralizing antibody titers of the progeny, one-day-old chicks, of the flocks decreased rapidly from 1.1 or greater to below 1.1 at 7~14 days of age. Little fluctuation of the titers, thereafter, was observed until 63 days of age at least.

3) An AEV neutralizing substance was detected both in the yolk and white of fresh eggs laid by the flocks.

4) Three hens which were selected at random from the flocks maintained the positive neutralizing antibody titers for 64 weeks after the period of the depressed egg production. Their progenies, one-day-old, which hatched 58 weeks after the period showed almost the same level of titers as those of their mother

hens.

5) Five one-day-old chicks from an AE susceptible flock succumbed to oral inoculation with a wild strain of AEV ( $10^{6.9}$   $CID_{50}$ ) isolated from the pipped embryos when the flocks were infected with AEV. However, 7 or 14-day-old chicks from the susceptible flock and 1-, 7-, or 14-day-old chicks from AE infected flocks resisted the same challenge.

6) The chicks of 1-, 7-, 14-days old, from the same flock did not develop the symptoms. On the other hand, 2 out of 5 one-day-old chicks with a significant level of maternal antibody succumbed to the same challenge. The chicks of 7-, 14-, 21-, 35-days old from the AE infected flocks resisted the challenge irrespective of whether they maintained the significant level of the maternal antibody or not.

7) The immunological responses in producing a neutralizing antibody in the progenies from the AE infected flock was weaker than that produced in the chicks from the AE susceptible flock after the challenge.

8) From the results described in 5) and 6), it was reconfirmed that one of the resistance factors to AEV infection is the age of the chickens.

### **ON THE ADENOID OR ADENOMATOID METAPLASIA OF THE MUCOSA IN THE RENAL PELVIS AND URETER OF THE HORSE**

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Formal pathogenesis of the adenoid or adenomatoid structures of the mucosa in the renal pelvis and ureter of the horse was considered. Materials investigated were obtained from 50 horses. They consisted of one fetus in the 6th month of pregnancy, 2 fetuses in the 9th month of pregnancy and 47 horses at various ages from 30 days to 21 years old. Five cases out of the above 50 consisted of one case with chronic cystitis and 4 cases with chronic interstitial nephritis.

No adenoid alveoli were found in the lamina propria of the renal pelvis of the fetuses and some of the foals. Four cases out of 8 of which the ureters were fully investigated extending through their whole length, had the adenoid alveoli in the lamina propria of the ureters, and in 2 out of the 4 cases the adenoid alveoli were formed extending over the whole length of the ureters.