



Title	AN EXAMINATION OF GRAFT ALTERATION AND RECIPIENT RESPONSE TO PROCESSED MARE CORTICAL BONE XENOGRAFTING
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**ON THE DEVELOPMENT OF "OVRIAN ADRENOCORTICAL
CELL NODULE" IN THE HORSE**

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Hokkaido University granted the degree of Master of Veterinary Medicine to the following 8 graduates of the Post-Graduate School on March 25, 1970.

The authors' summaries of their theses are as follows:

**AN EXAMINATION OF GRAFT ALTERATION
AND RECIPIENT RESPONSE TO PROCESSED MARE
CORTICAL BONE XENOGRAFTING**

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The examination was conducted in order to investigate the effectiveness of horse bone xenografting and the comparison of the differences in processed bone grafts. The inlay grafts of mare cortical bones processed by boiling, freezing and deproteinization were implanted in the humeral bone marrow of adult mongrel dogs, and fresh bone grafts were used as controls. The results of the grafts were examined by radiography. These inlay grafts were taken out of their recipients in order to examine the differences in them according to gross criteria and the quantitative analysis of the major minerals in the grafts.

The results may be summarized as follows.

- 1) By roentgenologic examination the absorption figures could be found quickly in the deproteinized, frozen, boiled and fresh grafts.
- 2) Osseal fusion between the graft and the recipient was complete on all of the deproteinized and frozen grafts and a few boiled grafts.
- 3) By gross criteria, replacement in grafts up to 16 weeks after implantation was not found in all the processed and fresh grafts.
- 4) The major bone mineral contents at the end of 16 weeks after implantation were nearly in agreement with the absorption rate in each graft.

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