Hokkaido University granted the degree of Master of Veterinary Medicine to the following 40 graduates of the Graduate School of Veterinary Medicine on 25 March, 1986.

The authors' summaries of their theses are as follows:

ROLE OF ADHERENT MONONUCLEAR CELLS DERIVED FROM ADULT PIGS AND SUCKLING PIGIETS IN RESPONSE TO POKEWEED MITOGEN- INDUCED IMMUNOGLOBOLIN SECRETION

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Newborn mammals have limited immune responses. In man, mice and piglets, this immunodeficiency is thought to be due to an activation of T suppressor lymphocytes. Recently, both macrophages and peripheral blood monocytes have been shown to play an important role in the immunodeficiency of the neonatal stage. The present study was undertaken to know the effect of macrophages on the function of lymphocytes in suckling piglets. The number of immunoglobulin secreting cells (ISC) was estimated after the stimulation by pokeweed mitogen (PWM). The results were as follows.

1) In adult pigs, less than 10% of monnocytes attached to a plastic or glass surface. In contrast, approximately 35% of cells adhered to serum-coated dishes and were classified as monocytes. Therefore, in this study, the adherent cells obtained from serum-coated dishes were used as 'adherent cells (A. C.)'.

2) When mononuclear cells (MNC) from adult pigs were stimulated by PWM, optimal number of A. C. were needed for the generation of ISC, but an excessive amount of A. C. suppressed the immnoglobulin production in this system.

3) In certain adult pigs, a very low ability to generate ISC was observed; thus, these pigs were called 'Low pig' compared with normal pigs (High Pig).

When the A. C. from Low Pig were added to the MNC from Low pig, the number of ISC did not increase. But the addition of A. C. from High Pig (High A. C.) to the MNC from Low Pig enhanced the generation of ISC so that it increased to the same level of High Pig.

4) In suckling piglets, PWM induced B lymphocyte differentiation was enhanced by the addition of High A. C. into the MNC from piglets and reached half the level of High Pig. But this enhancement was not observed when the High A. C. were not present.

On the other hand, A. C. from piglets had no effect on the increase of ISC generation when the cells were added to the nonadherent cells from High Pig.