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Author(s)	KANAI, Ryozo
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THE SERUM LEVEL OF IMMUNOGLOBULIN IN SUCKLING PIGLETS
TREATED AND NON-TREATED WITH INDOMETHACINE

Ryozo KANAI

*Department of Veterinary Internal Medicine
Faculty of Veterinary Medicine
Hokkaido University Sapporo 060, Japan*

It has been suggested that suckling piglets be kept in an immunologically depressed condition due to deficient differentiation of B lymphocytes. The present study was made to clarify the possibility that the macrophage-prostaglandin E_2 , which is one of the immunosuppressive factors, may be involved in immunodeficiency in suckling piglets. Nine suckling piglets from a litter were divided into 3 groups: group (IND) was treated with 5 mg/kg body weight of indomethacine, which is an inhibitive substance to PG synthesis, by intraperitoneal injection from 1 to 21 days after birth. Group (IND+FR) was treated with both IND and 50 γ /kg body weight of FR41565 (one of the immunopotentiators), which was injected subcutaneously for 36 days after birth at 2 days intervals. Group III was control (non-treated). The serum level of immunoglobulin (IgG and IgM) and the antibody titer of agglutination to sheep red blood cells were determined using the sera obtained from each of the 3 groups. The weight of the spleen was also examined in two piglets from each group.

The results were summarized as follows:

1. Serum IgG level of (IND) and (IND+FR) treated with IND was higher than that of group III (control) from 5 to 19 days. On the contrary, serum IgG level of group III (control) was higher from 21 to 41 days. However, there was no significant difference between the treated and non-treated groups.

2. Serum IgM level of group III (control) was the lowest among the 3 groups from 1 to 21 days. On the contrary, serum IgM level of group III (control) was higher than that of group I (IND) from 28 to 40 days. However, there was no significant difference between the treated and non-treated groups except between groups II (IND+FR) and III at 14 and 19 days, respectively ($P < 0.05$).

3. The agglutination titer of group III (control) was the highest among the 3 groups from 28 to 40 days. But, there was no significant difference in the titer between the treated and the non-treated groups and experimental stages.

4. In weight of the spleen and its percentage to body weight, there was no significant difference between the treated and non-treated groups.

These results indicated that PGE_2 might not be involved in humoral immunity of suckling piglets.