

Supachart Panneum 2009: A Study on Bovine Leukemia Virus Infection: Seroprevalence in Dairy Cattle and Early Infection in Dairy Calves. Master of Science (Veterinary Clinical Studies), Major Field: Veterinary Clinical Studies, Interdisciplinary Graduate Program. Thesis Advisor: Associate Professor Theera Rukkwamsuk, Ph.D. 83 pages.

Seroprevalence of bovine leukemia virus infection and its immunological response were studied in dairy cattle raised under a natural condition of Kanchanaburi province. Seroprevalence results was high both at herd and individual levels were 61.26% (68/111) and 37.82% (250/661), respectively. Seroprevalence for cows and heifers were 46.25% (191/413) and heifers were 23.49% (59/248), respectively. This result indicated that seroprevalence was high and a route of transmission of BLV in cows and heifers in seropositive herd were also the same that was an inappropriate sanitation of farm practice. The hematological parameters, particularly white blood cell count and percentage of lymphocyte were higher and percentage of neutrophil was lower for seropositive cows than for seronegative cows. These results were very useful for a clinical diagnostic tool of BLV infection and may be a potential information for eradication of leukocytotic or lymphocytotic cows that play a major role of BLV reservoir from the seropositive herds. The hematological parameters did not differ between seropositive and seronegative heifers, indicating that there were no association between BLV infection and any hematological change in heifers. Calves born from cows in seropositive herd showed seropositive to ELISA immediately after calving and before feeding with colostrum. This result suggested that antibodies against BLV might be transferred to the fetus during pregnancy. This might indicated that only serological test was not sufficient to detect a BLV infection in calves less than 6 months of age. The present result also showed an evidence of intra-uterine infection. Although the major route of transmission of BLV is via colostrum, BLV infection of calves via ingestion of colostrum in this study was not conclusive. All hematological parameters in either seropositive or seronegative calves were in normal ranges and did not change during the 6 month of age. Therefore, hematological changes could be used as indicators for BLV infection only in dairy cows.

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Thesis Advisor's signature

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