PP-10

Subpopulation of lymphocytes in Korean native cattle infected with enzootic bovine leukosis

Soon-seek Yoon, You-chan Bae, Young-hwa Jean, Kook-hyun Seo[1] and Hong-ryul Han[2]
National Veterinary Research and Quarantine Service
[1]National Livestock Research Institute
[2]College of Vet. Med., Seoul National Univ.
E-mail: yoonss24@hotmail.com

Introduction

Enzootic bovine leukosis(EBL) is chronic disease caused by bovine leukemia virus(BLV), retroviridae. The characteristic feature of this disease is proliferation of lymphocytes in circulating blood or lymphoid tissues. Because EBL concern lymphocytes, immunological disorder or alteration in the lymphocyte subpopulation is suggested.

In this study, we investigated the changes of the lymphocyte subpopulation in the circulating blood of Korean native cattle infected with bovine leukemia virus.

Materials and Methods

We have used BLV infected and noninfected Korean native cattle reared in Chongnam Province for this study. Bloods are collected to the vacutainer containing EDTA. Using flow cytometry(Becton Dickinson, FACScan), we have tested the lymphocytes, and used cellquest software for analysis of FACS results.

We used primary antibodies purchased from VMRD and secondary antibodies purchased from Serotec and Southern biotech.

Results and Discussion

The average number of total lymphocyte of BLV infected and noninfected cattle is 15,000 and 9,300, respectively. The number of B cell and CD11b is increased in BLV positive cattle. The population of CD2, CD4, CD6 and CD8 is decreased in BLV positive cattle, but CD5 positive cell in BLV positive cattle is slightly increased. In dual staining, B cell and CD5 dual positive cell is prominently increased in BLV positive cattle.

Finally, B lymphocytes are increased and T lymphocytes are decreased in BLV infected cattle. But CD5 which is T cell marker is increased in BLV positive cattle.

References

1. **Bummy A., Bex F.**, et al. Advance in Can Res. **28**: 251-311. 1978.
2. **Bendixen HJ.** Advance in Vet Sci and Comp Med. **10**: 129-204. 1965.
3. **Gatei MH, Brandon RB**, et al. Vet Immunol Immunopathol. **23**: 139-147. 1989.