ROLE OF GANGLIOSIDES, GM3 AND HD3, CONTAINED IN CANINE TRANSMISSIBLE VENEREAL SARCOMA AS TUMOR-ASSOCIATED ANTIGENS.

Harushige OZAKI

Department of Veterinary Surgery
Faculty of Veterinary Medicine
Hokkaido University, Sapporo 060 Japan

The purpose of this study was to demonstrate the role of GM3 and HD3 in the regression of canine transmissible venereal sarcoma (CTVS).

GM3 and HD3 antibodies were detected by ELISA and complement fixation (CF) test. In CF test, non-specific antibody titer against lecithin-cholesterol solution used for antigen dilution was increased. In the ELISA test there was no non-specific reaction.

Three inoculation methods were designed for immunization of GM3. Immunization by intracutaneous injection of GM3 using methylated bovine serum albumin (BSA) as a carrier and non-active tubercle bacillus increased the GM3 antibody titer to 80. Immunizations by intracutaneous injection of GM3 using methylated BSA as a carrier and intrasplenic injection of GM3 attached to Octyl Sepharose 4B CL beads did not increase the GM3 antibody titer.

CTVS was given to challenge dogs immunized with GM3, but there was no difference in tumor growth between immunized and control dogs.

From the flow cytometric study in which anti-GM3 or anti-HD3 canine serum reacted to CTVS cells by indirect fluorescent antibody technique, it was suggested that GM3 was expressed on the CTVS cell surface membrane, while HD3 was not.

The cytotoxicity of lymphocytes against CTVS cells in mixed lymphocyte and tumor cell culture was blocked by adding anti-GM3 or anti-HD3 canine serum, therefore both antibodies were considered to act as blocking antibodies in antibody-dependent cell-mediated cytotoxicity *in vitro*.