

OKT8⁺ cells.

On the other hand, suppressor activity of D-MNC was high, but NK activity of D-MNC was decreased compared to peripheral MNC.

(Discussion) Immunohistolyed study showed that cytotoxic T cells were increased in D-MNC. Cytotoxic activity, however, was decreased. So immunological environment around the decidua is found to be good for the fetus to survive.

69. Characterization of Monoclonal Human Sperm Binding Antibodies by Human-mouse Hetero Hybridoma

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It has been generally accepted that Sperm immobilizing antibody correlated with human infertility but sperm binding antibodies detected by immunofluorescent test did not. Recently, enzyme linked immunosorbent assay (ELISA) by which detected sperm binding antibodies, has been proposed for screening of antisperm antibodies in infertile patient's sera. It is not well known whether antibodies detected by ELISA have any biological effect on human reproductive functions or not. In this study, we analyzed biological function of monoclonal human sperm binding antibodies screened by ELISA from human-mouse hetero hybridomas. We established 3,916 human mouse-hetero hybridomas by cell fusions with murine myeloma cell (NS-1) and peripheral blood lymphocyte (PBL) from 11 infertile women who have sperm immobilizing antibody in their sera. Out of 17 monoclonal human antisperm antibodies detected by ELISA, eight Mab were used for analysis of biological function of sperm, such as sperm immobilization, agglutination, penetration to cervical mucus and penetration to zona free hamster egg. Even though concentration of antibody of these Mabs was adjusted with human Mab H6-3C4 which has strong sperm immobilizing and agglutination activity, no significant biological effect was detected.

These data suggested that sperm binding antibody detected by ELISA using fixed sperm for antigen could not be always correlated with human infertility. We should be careful to use such assays for screening antisperm antibody in patients's sera.

70. Electron Microscopic Studies on Morphological Changes of Spermatozoa Treated with Human Monoclonal Sperm Immobilizing Antibody (H6-3C4) and Complement and Localization of the Corresponding Antigen on Spermatozoa

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Human monoclonal antibody (H6-3C4) with strong sperm immobilizing and agglutinating activities was generated by cell fusion of human lymphocytes from a sterile women with sperm immobilizing antibody and mouse myeloma cells and used for electron microscopic studies on morphological changes of antibody treated spermatozoa and localization of the corresponding antigen on spermatozoa. When ejaculated human spermatozoa were treated with the monoclonal antibody and guinea pig serum as complement, remarkable changes such as peeling-out of plasma membranes or formation of neumerous small holes on plasma membranes were observed on sperm heads by scanning (SEM) and transmission (TEM) electron microscopies. For immunoelectron microscopy, washed human spermatozoa were incubated with biotinylated monoclonal antibody (H6-3C4) and followed by the reaction with ferritin conjugated avidin. After completion of a series of processes for TEM preparation, localization of the corresponding antigen was examined by TEM. Ferritin particles were observed on entire surfaces of spermatozoa with a patchy distribution but most strongly condensed on the post acrosomal region.

71. Immunohistochemical Study on the Expression of MHC Class II Antigens on Trophoblast Cells

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The expression of HMC class II antigens (HLA-DR, -DP, -DQ) on trophoblast cells was analysed by an immunoperoxidase technique using monoclonal antibodies (mAbs.). Tissues were obtained after pregnancy hysterectomy with the medical indications and

after normal deliveries. They were snap-frozen in liquid nitrogen, cut in a cryostat and fixed in acetone for 10 minutes. Mouse mAbs. used in this study were anti-HLA-DR (Cappel), anti-HLA-DP (B7/21), anti-HLA-DQ (anti-Leu-10) and anti-cytokeratin (CAM 5.2) [Becton Dickinson]. In addition, anti-cytokeratin (Troma-1), a rat mAb, was used to recognize trophoblast cells.

In first trimester, HLA-DP could be identified on cytotrophoblastic cell column, villous cytotrophoblast, cell island and extra-villous trophoblast invading the decidua basalis including endovascular trophoblast.

In term placenta, villous syncytiotrophoblast and extra-villous trophoblast found in the decidua were positive for HLA-DP.

In contrast, none of trophoblast reacted with anti-HLA-DR or anti-HLA-DQ.

72. BCDF· γ Generation Capacity and DR Antigen Expression of Monocytes in Neonate

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The present study investigated the cytokine generating capacity of B cell growth factor (BCGF) and B cell differentiated factor (BCDF), and monocyte mechanism of DR antigen expression and IL-1 generation.

BCGF generation in full term infants had no significant difference with adults. Premature infants meanwhile presented a significantly higher level than in adults.

BCDF· γ generation in full term infants was significantly decreased in comparison to adults. In premature infants, BCDF· γ generation was even further significantly reduced in comparison to full term infants.

DR antigen expression was reduced in neonate in comparison to adults after stimulation with *Staphylococcus aureus* Cowan I (SAC).

IL-1 generation capacity in full term births was significantly decreased in comparison to adults. In premature infants, IL-1 generation was even further significantly reduced in comparison to adults.

BCDF· γ generation capacity was reduced in neonate in comparison to adults. Monocyte capacity in neonate was reduced in comparison to adults. And these reductions are considered to be causal factors

of decreased antibody production in neonates.

73. Production of Interferon-gamma in Peripheral Mononuclear Cell of Patients with Gynecologic Cancer and Regulation Mechanism of Interferon-gamma

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Interferon-gamma (IFN- γ) is a lymphokine with various biological activities and its production kinetics in living body with cancer-barrier has not been clarified so far. We tried to clarify the relationship between production of IFN- γ and its function of monocyte subjecting gynecologic cancers (cervical cancer, endometrial cancer and ovarian cancer).

Results: 1) The production of IFN- γ in mononuclear cells decreased significantly in the cervical cancer compared with control group. 2) According to the removal of monocyte, the productive amount of IFN- γ decreased in 80% of control group, inversely, productive amount of IFN- γ increased in 70% of the cervical cancer. 3) With regard to the production of IL-1, no significant difference was noted in control group and gynecologic cancer, and no significant correlation was also noted in the production of IFN- γ .

Conclusion: The decrease of the production of IFN- γ was noted in the cervical cancer, and it was suggested to be due to the enhancement of its inhibitory activity (suppressor macrophage) rather than decrease of accessory effect (IL-1 activity) of the monocyte as its factor.

74. Effects of Sera of Gynecological Cancer and Pregnancy on Cellular Immunity

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Effects of sera from untreated gynecological cancer patients, 1st, 2nd 3rd trimesters of normal pregnancy upon PHA and MLR induced lymphocytes blastformation, natural killer cell activity and killer Tcell induction were analysed.

1. The ^3H -thymidine uptake of lymphocytes by PHA and MLR significantly decreased in cancerous