ATTEMPT TO PREVENT LYMPHOID ATROPHY IN SECONDARY DISEASE OF RADIATION CHIMERAS BY TRANSPLANTATION OF LYMPHOCYTES OF THE RECIPIENT'S LINE

L. V. Koval'chuk and Yu. M. Zaretskaya

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In this investigation an attempt was made to influence the course of secondary disease by injecting isologous spleen cells into the recipient before onset of the period of secondary death and at the beginning of this period.

Female CBA and C3H mice (weight 22-26 g) were irradiated with γ-rays in a dose of 900 r ($LD_{100/13}$) and protected 24 h later with bone marrow cells of Wistar rats ($3\text{-}3.5 \times 10^7$ cells per mouse). On the 15th, 23rd, and 24th days after irradiation the chimeras (using the reaction of the granulocytes for alkaline phosphatase as test) received an intravenous injection of spleen cells of the recipient's line, twice washed and suspended in medium No. 199. The survival rate, peripheral blood indices and state of the lymphoid hemopoiesis in the spleen (impressions from dying animals were investigated) were used as tests.

No significant difference was found between the survival rates of the animals of the experimental and control groups. The anticipated marked increase in the number of lymphocytes in the peripheral blood was not observed in the animals of the experimental group by comparison with the controls. Lymphoid hemopoiesis was somewhat increased in the spleen of the experimental animals, but insufficiently to create a lasting increase in the number of lymphocytes in the blood.

Additional transplantation of spleen cells of lines isologous with the recipient, given in the same number as the bone marrow cells used for protecting the irradiated recipient, proved to be an ineffective means of preventing lymphoid atrophy and had no effect on survival of the heterologous chimeras. Evidently, isologous lymphocytes deprived of their natural "territory" of settlement die, in the absence of conditions for active repopulation.

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