

# **INFLUENCE ALLOGENIC MESENCHYMAL STEM CELLS ON METASTASIS PROCESS IN MICE C57BL/6 WITH TRANSPLANTANT LEWIS LUNG CARCINOMA**

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Influence allogeneic mesenchymal stem cells in the process of metastasis in mice C57BL/6 with transplant metastatic Lewis lung carcinoma were investigated. Experiments were performed on C57BL/6 male mice three-week-old, weighing 20-22 g. The process of metastasis in animal control and experimental groups differed significantly. The effect of allogeneic MSCs on process metastasis enters the vascular stage rather certifying a higher number of metastases larger size. The total number of metastases measuring 1.0 - 3.0 mm in the animals of experimental group is 52.5%, while in the control of this indicator - 31.4%. Value of the total volume of metastases by exposure allogeneic MSCs significantly higher  $41.52 \pm 7.9$  \* than animals in the control group -  $17.94 \pm 6.59$  ( $P < 0.05$ ). The use of MSCs in mice with Lewis lung transplant carcinoma has influence on the increase in the total volume of metastasis ( $\eta^2 = 0.26$ ,  $p < 0.05$ ).

It was established that the rate of the total volume of metastases in animal experimental group was significantly higher, namely 2.3 times compared to the control. According to analysis of variance force of impact on the overall ICN Extent metastases  $\eta^2$  According to Mr. =  $0.26 < 0.05$  and we can say that the use of MSCs the course of tumor has impact on the increase in the total volume of metastases. We believe this can be explained as follows. It is known that tumor stroma consists of extracellular matrix and different types of mesenchymal cells, including macrophages, endothelial cells, lymphocytes, pericytes, fibroblasts and myofibroblasts. These stromal cells interact with the tumor cells and by direct contact and through paracrine signaling mechanisms mediated secretion of soluble factors, including cytokines, chemokines and growth factors. The interaction between tumor and stromal cells regulate tumor growth, metastasis, angiogenesis. MSCs also migrate to the tumor tissue, where they are included in the tumor stroma and above through these mechanisms stimulate proliferation of tumor cells, as evidenced by the results of our research.

The use of allogeneic MSCs to influence the course of metastasis in mice with Lewis lung carcinoma transplant.

Allogeneic MSCs influence the process of metastasis enters the vascular stage rather certifying a higher number of metastases larger - 52.5 against 31.4% in the control group animals.

Value of the total volume of metastases by exposure allogeneic MSCs significantly higher ( $41.52 \pm 7.9$ ) than animals in the control group ( $17.94 \pm 6.59$ ) ( $p < 0.05$ ).

The use of MSCs in mice with Lewis lung transplant carcinoma has influence on the increase in the total volume of metastasis ( $\eta^2 = 0.26$ ,  $p < 0.05$ )

*Keywords: allogeneic mesenchymal stem cells, mouse, Lewis lung carcinoma, metastasis, total volume of metastases*