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# Immunotherapy with autologous dendritic cells in the complex treatment of malignant gliomas – results

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## Abstract

**Annotation:** Malignant gliomas are the most common primary brain tumor. Despite the variety of modern treatments, it is still a fatal disease with an extremely poor prognosis. The use of immunotherapy as a technique for the treatment of malignant tumors has great promise, retraining and exploiting the patient's immune response against tumors.

**Objective:** Evaluation of the effectiveness of dendritic cell vaccine in patients with malignant brain gliomas in the structure of complex treatment in comparison with the control group of patients without immunotherapy in the structure of treatment.

**Materials and methods:** In a single-center, prospective, cohort study, taking place on the basis of the RNSI named after prof. A.L. Polenov, 91 patients with morphologically established malignant glial tumor (glioblastoma) took part. The main group of 41 patients who, in addition to standard treatment (surgical, radiation and chemotherapy), underwent specific antitumor immunotherapy. 50 patients received only standard treatment, without immunotherapy.

**Results:** Median survival was 21.7 months in the immunotherapy group (95% CI 4-37 months) and 15.8 months (95% CI 3-22 months) in the non-immunotherapy group ( $p = 0.002$ ). The median relapse-free period in the group with immunotherapy was 13.8 months (95% CI 1-20 months), and in the group without immunotherapy 7.9 months (95% CI 1-12 months) ( $p = 0.003$ ).

**Conclusion:** In general, the use of immunotherapy in the structure of complex treatment of patients with malignant gliomas demonstrates a clear positive trend in terms of overall survival and median relapse-free period. But nevertheless, immunotherapy requires further development as a therapeutic tool, study and improvement, which will take into account immunosuppression in malignant gliomas and means of overcoming it, optimization in terms of target antigen selection, cell preparation and integration of dendritic vaccines into other treatment regimens.

**Keywords:** Immunotherapy; Long-term results; Malignant gliomas; Neuro-oncology.

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