

عنوان مقاله:

Induction of Allogeneic Subcutaneous Glioma Tumor with GL ۲۶ Cell Line in Balb/c Mice

محل انتشار:

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نویسندگان:

عبدالرضا اسماعیلزاده - Dept. of Immunology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

معصومه ابتکار - Dept. of Genetics and Molecular Medicine, Faculty of Medicine, Zanzan University of Medical Sciences, Zanzan, Iran

علیرضا بیگلری - Dept. of Immunology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

زهیر محمد حسن - Dept. of Immunology, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran

خلاصه مقاله:

Background and Objective: Glioma is the most common primary brain tumor. Despite many advances in treatment, all patients die within ۶ to ۱۸ months after diagnosis. In the cases of glioma, the immune system is suppressed in a local fashion. Therefore, unveiling the cellular and molecular mechanisms involved, with the aim of obtaining an appropriate new treatment is a priority. Designing an appropriate animal model is necessary before any clinical trials. **Material & methods:** In this study, we prepared fifteen ۶-۸ week-old female mice (Balb/C) from the Pasteur institute, Tehran, and also selected the mouse glioma cell line GL۲۶ to induce a allogeneic subcutaneous tumor. After culturing the cell and anesthetization of the mice, we injected different cell doses into distinct groups of mice. Sterile PBS was injected into the control group. Animal behavior and clinical symptoms were regularly followed and recorded, and after tumor induction, it was surgically removed and evaluated in terms of macroscopic and microscopic characteristics. **Results:** The tumor was induced more quickly with higher number of GL۲۶ cells in mice. Atrophy and weakness was observed in the affected animals. In macroscopic examination, the tumor was relatively large, thick and full of blood. Moreover, in microscopic examination, cell proliferation, mitosis, abundant vessels, and tumor necrosis were observed. **Conclusion:** Regarding the limitations of a glioma syngeneic animal model, establishment of an allogeneic subcutaneous model, allows an easy evaluation of the size and volume of the tumor, without a requirement for sacrificing the animal. This model has the potential to provide opportunities for research on some immunological parameters, the testing of new therapeutic agents, and new discoveries in basic research, concerning glioma, for the first time in Iran.

کلمات کلیدی:

Keywords: Immunogenetic, Brain tumor, Glioma, GL۲۶, Allogeneic model, Subcutaneous, Iran

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