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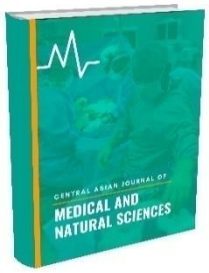

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Significance of High P53 Protein Expression in Astrocytomas

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Abstract: Research objective: Analysis and evaluation of immunohistochemical positivity of p53 tumor protein in astrocytomas.

Key words: anaplastic astrocytoma, diffuse astrocytoma, p53 protein.

Research object and methods: 150 patients with astrocytoma were treated at RINIATM between 2020 and 2022. A retrospective analysis of the pathomorphological types of astrocytoma was conducted, and 20 patients were selected in 2 groups: fibrillary astrocytoma (Grade-2) and anaplastic astrocytoma (Grade-3). In addition to morphological examination results, immunohistochemical examination was performed using Bond Leica Australia (Australia) immunohistoprocessor to examine the expression of R53 monoclonal antibody in cells. The results of IGX were visually evaluated in scores using the "sign scoring" method, taking into account the intensity and the percentage of stained cells in the tumor cell. About 200 cells were counted per case. The obtained results are evaluated in the form of mild, moderate and severe positive reactions.

Results: Of fibrillary astrocytomas (20=n), 10 (50%) had a mild positive reaction, 2 (10%) had a moderate positive reaction, and 8 (40%) had a negative reaction, with an average of 6-7 in the total visual field. % cell intensity was observed. Tumor tissue under the microscope: astrocytes with hyperplasia and cell polymorphism, pathological mitoses in small numbers, and cystic changes in some foci. It was found that the cells were stained with a small amount of dark brown color. In the tissue of anaplastic astrocytomas (n = 20), hyperplasia and cell polymorphism of astrocytes and pronounced atypia, numerous pathological mitoses and numerous dark brown malignant tumor cells were detected. In anaplastic astrocytoma, 2 (10%) patients had a mild positive reaction, 4 (20%) patients had a moderate positive reaction, average 4-5% cell intensity in the total field of view, and 14 (70%) patients had a high positive reaction, average in the total field of view 20-25% cell intensity was observed.

Conclusion: In almost all astrocytic tumors p53 protein was expressed in immunohistochemical reactions. It was found that the number of tumor cells expressing this protein increases with the increase in the degree of malignancy of astrocytomas. This indicates that there are point mutations of the p53 gene in astrocytomas.

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