TIMIȘOARA MEDICAL JOURNAL

Oral Presentation

Immunohistochemical Testing of IDH Mutation in Gliomas: Diagnostic, Prognostic and Predictive Impact

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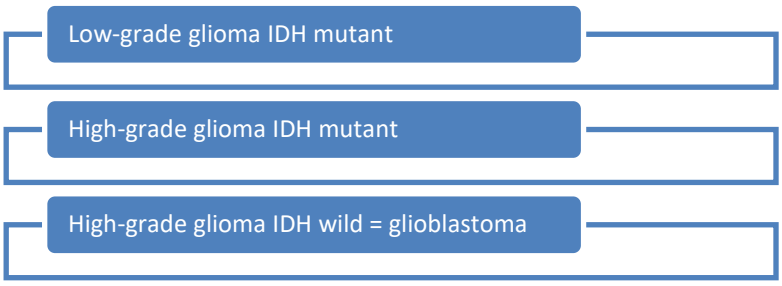
Abstract: ***Objective:*** To investigate the immunohistochemical expression of isocitrate dehydrogenase in tissue samples from patients with surgically managed gliomas. ***Material and Methods:*** Biopsies from 20 patients that underwent neurosurgery for brain tumors from January to June 2024 in Timișoara County Hospital, were formalin-fixed and paraffin-embedded. In addition to the routine stain, the immunohistochemical technique with anti-IDH1 antibody (R132H) was used. ***Results:*** The routine stain showed the predominant fibrillar pattern with variable cell densities, the inconstant presence of tumor necrosis with palisading and microcirculation proliferations, orienting the diagnosis towards a high-grade glioma, in the vast majority of astrocytic origin. 17 cases were diagnosed as glioblastoma G4 (12 wild-type; 5 NOS, the latter because of progression / recurrence of a previously known high grade glioma). The gender distribution was M:F = 7:10, the most involved decade being the 7th (8 cases). The remaining cases were astrocytomas G3 and G4 respectively, IDH1 mutant and one case of oligodendroglioma G3, IDH1 mutant, pending for genetic testing for 1p/19q codeletion. The demographic parameters of these 3 cases were M:F = 1:2, each case being diagnosed in a different decade: 3rd, 4th and 7th respectively. ***Conclusions:*** Patients with IDH1 mutant gliomas are much younger, respond better to chemotherapy with temozolomide and could benefit of an IDH1 R132H mutation-specific vaccine.

Keywords: IDH immunohistochemistry, gliomas, clinical impact



Glioma

IDH immunohistochemistry targeting R132H mutation

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