Abstracts

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ADAPTATION OF NEW CLASSIFICATION OF ASTROCYTOMA IN LOW AND MIDDLE INCOME COUNTRY: HOW SMOOTH IS THE ROAD AHEAD?
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BACKGROUND: The 2021 WHO CNS 5 classification made major changes with integration of immunohistochemistry, molecular profiling and sequencing in addition to histopathology to classify brain tumors. IDH mutation is mainstay for diagnosis of low grade glioma and 1p/19q testing required only to confirm oligodendroglioma but not in all cases. This integrated approach has favored prognosis, and diagnosis of disease as well as prediction of response to therapy. METHODS: A retrospective study was conducted to analyze the molecular alterations in patients diagnosed with astrocytoma in 2021 in Kathmandu Cancer Center, Nepal. The demographic data were collected from the patients’ archived files from the medical record department. The patients were categorized as IDH: mutant and wild, and ATRX: retained and lost. RESULTS: This study demonstrated IDH and ATRX mutation with 30.3% and 24.23% respectively. In our study, among grade 2 and 3 patients, 8 out of 11 (72.7%) were IDH mutant types. 2 patients of this group were IDH wild type, who ideally required further testing for correct classification but couldn’t be done due to financial constraints. IDH status of one patient in this group was unknown. 72.7% of the Grade 4 gliomas were IDH wild type and classified as Glioblastoma Multiforme. In 6 of the patients IDH status was unknown. Among 8 grade 2 and 3 tumors with IDH mutant, 2 had loss of ATRX and 6 had ATRX retained. Among these 6 patients only one had 1p/19q co-deletion done which was positive. Rests 5 were not properly classified. CONCLUSION: In conclusion, higher percentage of IDH wild type was seen in Grade 4 gliomas. Similarly, the IDH mutant type predominated in Grade 2 and 3 gliomas. More pronounced investigations are still not feasible in low- and middle income countries because of limited resources.