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LETTER

Critical Response: "Does the Mutation of Cancer Driver Genes *IDH1/2* and CD204 Influence Cancer Metabolism and Tumor Associated Macrophage Recruitment in Tumor Microenvironment" [Letter]

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Dear editor

We have reviewed and appreciated the work performed by Kurdi et al regarding the mutation in cancer driver genes *IDH1/2* and CD204 and the correlation between mutations found in those genes and the alterations of tumor-associated macrophage recruitment in tumor microenvironment.[1] The IDH gene encodes a NADP(+)-dependent isocitrate dehydrogenase enzyme, which could be found in the cytoplasm and peroxisomes. Based on previous studies, IDH is an essential enzyme involved in major metabolic processes such as the TCA cycle, glutamine metabolism, adipogenesis, and redox regulation.[2] *IDH1/2* genes were included and reported to be useful as single gene biomarkers used in glioma prognostication.[3] In their work, the correlation between *IDH1/2* gene mutations and the expression of CD204 in tumor-associated macrophage (TAM) was evaluated. There was no correlation found between these two factors in the tumor microenvironment, according to their results. However, the result taken from the very small sample size (n=20) used in this study was tricky to state the correlation between factors in a very complicated condition of tumor microenvironment.[4] Beside the small sample size, the number of patients diagnosed with WHO-grade 4 astrocytoma detected carrying IDH mutations was much lower than those carrying IDH wild-type. Therefore, further research in the same issue with bigger sample size with more patients carrying the IDH mutations are recommended to be performed to take a more responsible conclusion.

Regardless of their small sample size, we appreciated the well performed immunohistochemistry experiment resulting clear definition of high and low expression of CD204 in tumor-associated macrophages. The procedure of this immunohistochemistry was performed following previously designed protocol which explained its sustainability.[5] Therefore, the conclusion taken regarding the CD204 high expression and tumor early recurrence was pretty clear to be understood. Since the characterization of the tumor (immune) microenvironment has been recognized as an important challenge in this field, the work related to *IDH1/2* mutations in gliomas and immune response profiles was recommended to be unraveled.[6]

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Disclosure

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