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CD44 expression in meningioma and its correlation with proliferation indices

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Introduction: CD44 is a cell adhesion molecule assumed to be related to tumour invasion and metastatic ability and is expressed in variety of tumours including meningiomas.

Aim: To evaluate the immunohistochemical expression of CD44 in variable grades and variants of eningioma and to correlate the results with Ki-67 proliferation index and available clinicopathologic variables.

Materials & Methods: A total of 40 meningioma cases were studied for immunohistochemical expression of CD44 and Ki-67 and correlated with different clinicopathologic variables. A p-value less than 0.05 was considered statistically significant.

Results: CD44 was markedly expressed in high grade (II and III) meningioma (81.8%) compared to grade I (18.2%) and was statistically significant ($p < 0.001$). Ki-67 proliferation activity was significantly correlated with meningioma grade ($p < 0.001$) and brain invasiveness ($p = 0.033$). Moreover, statistically positive correlation ($p = 0.01$) was reported between CD44 and Ki-67 proliferative activity. No statistically significant correlation was detected between CD44 or Ki-67 expression and patients' age, sex, and tumour recurrence rate ($p > 0.05$).

Conclusion: We concluded that CD44 is a marker of aggressiveness in meningioma as it was significantly highly expressed in grade II and III meningioma and was, positively correlated with higher Ki-67 proliferation indices. Therefore, researches should be carried out to identify the role of CD44 targeted therapy in atypical and anaplastic meningiomas as done in other tumours e.g., breast cancer.

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