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Prognostic significance of N-glycolyl GM3 ganglioside expression in non-small cell lung carcinoma patients: New evidences

Adriana Carr Perez[1], Rances Blanco[1], Elizabeth Dominguez[1], Orlando Morales[1], Damian Blanco[2], Darel Martinez[1], Charles E Rengifo[3], Carmen Viada[1], Mercedes Cedeno[1] and **Enrique Rengifo[1]**

[1]Center of Molecular Immunology, Cuba

[2]National Institute of Oncology, Cuba

[3]Manuel Fajardo Hospital, Cuba

NeuGcGM3 ganglioside is a human tumor specific antigen. The significance of NeuGc overexpression in human cancer is still under investigation. The prognostic role of N-glycolyl GM3 ganglioside (NeuGcGM3) expression in non-small cell lung carcinoma (NSCLC) still remains controversial. In this study, the NeuGcGM3 expression was reevaluated using an increased number of NSCLC cases and the 14F7 Mab (a highly specific IgG1 raised against NeuGcGM3). An immunohistochemical score integrating the percentage of 14F7-positive cells and the intensity of reaction was applied to reassess the relationship between NeuGcGM3 expression, some clinicopathological features and the overall survival (OS) of NSCLC patients. The double and the triple expression of NeuGcGM3 with the epidermal growth factor receptor (EGFR) and/or its ligand, the epidermal growth factor (EGF), were also evaluated. NeuGcGM3 expression correlates with both S-Phase fraction (p=0.006) and proliferation index (p=0.000). Additionally, NeuGcGM3 expression was associated with a poor OS of patients in both univariate (p=0.020) and multivariate (p=0.010) analysis. Moreover, the double and/or the triple positivity of tumors to NeuGcGM3, EGFR and/or EGF permitted us to identify phenotypes of NSCLC with a more aggressive biological behavior. Our results are in agreement with the negative prognostic significance of NeuGcGM3 expression in NSCLC patients. However, standardization of techniques to determine the expression of NeuGcGM3 in NSCLC as well as the implementation of a universal scoring system is recommended.

Biography

Adriana Carr has completed her PhD from Havana University School of Medicine and Post-doctoral studies from Center of Molecular Immunology. She is the Director of Biomarker Group and Head of Combination Therapy Project based on Immunotherapy at the Center of Molecular Immunology in Havana, Cuba, an institution related to the development of new drugs (vaccine and antibodies) for cancer therapy. She was invited to John Wayne Cancer Institute and also worked with Buenos Aires University in the field of cancer immunotherapy. She has published more than 34 papers in reputed journals.

adriana@cim.sld.cu

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