Immunological aspects of glioma tumorigenesis

Lenka Maruscakova¹, Filova B², Rychly B³, Gomolcak P⁴, Kozak J⁵, Poljak Z³, Kapani M⁴, Matejcik V⁵, Steno J² and Bucova M¹

Comenius University, Slovakia

Immune cells and molecules in tumor microenvironment are crucial in tumorigenesis. Inflammation is known as one of hallmarks of cancer and is considered as an protumorigenic factor. Glioma tumor microenvironment glioma still needs deeper insight into its immunological characteristics. Both local and systemic chronic low grade inflammatory response are operative for correlation with gliomas grading and their prognosis. Complex network of immune signals and pathways is in intricate background of most of cancer hallmarks. This concept is an intersection of three huge research fields: immunology, oncology and neurology. Cancer immunology has a perspective in complex approach to diagnosis of gliomas. There is an appealing importance of establishing immune molecules in gliomas. TREM-1 (Triggering receptor expressed on myelocytes) is an inflammation amplifier, however its role in glioma remains still unclear. The aim of our study is to establish the expression of TREM-1 in glioma tissues and to correlate it with staging, grading and other laboratory parameters. Establishing of TREM-1 expression could have a promising role in pathophysiology of gliomas. Our preliminary results show densely infiltrating TREM-1+ immune cells in tumor tissue. At signal pathways level, inflammation is interconnect with molecules related to hypoxia. Cross-talk of inflammation and hypoxia becomes more obvious in glioma as well. Consideration of relations dynamics is also necessary. But, deep understanding of their signal network in glioma tumorigenesis is challenging. Our aim is to provide critical view on our pivotal results in framework of data from literature and discuss their significance for deep understanding of glioma tumorigenesis.

Biography

Lenka Maruscakova, MD. was graduated in General Medicine at the School of Medicine, Comenius University Bratislava, Slovakia. She does her postgradual studies at Institute of Immunology School of Medicine, Comenius University Bratislava, Slovakia. Her PhD. thesis is devoted to the inflammatory markers in brain tumors. Her scientific work is multidisciplinary approach connecting field of immunology, oncology and neurology.

lenka.maruscakova@fmed.uniba.sk

Notes: