Abstract:

The tumor microenvironment of Glioblastomas (GB) is very complex and transforms throughout radiotherapy and chemotherapy, posing a favourable environment for the malignant properties of GB including invasivity, which promotes aggressive recurrency of the tumor. These changes in the tumor microenvironment are partly induced by cellular senescence and cellular response to stress, accompanied by a specific secretome, so called senescence-associated secretory phenotype (SASP). The SASP is distinct in its secretion of growth factors, components of the extracellular matrix and remodelling enzymes, but above all proinflammatory cytokines, which may contribute to the malignant properties of GB. This thesis reviews the current state of knowledge of the potential role of selected cytokines of the SASP (IL-6, IL-1β, IL-8, IL-1α, TGF-β, CCL2, TNF-α) in support of the malignant properties of GB.

Key words: glioblastoma (GB), senescence, SASP, malignant properties, cytokines