Neutrophils are the most abundant white blood cells and are the first recruited to inflammatory sites. Neutrophils are an important component of the tumor stroma and can exert both anti-tumoral and pro-tumoral activities, depending on their maturation and activation state. In human gliomas, the number of circulating and infiltrating neutrophils correlates with the severity of the disease, indicating a prognostic and possible pro-tumoral role for these leukocytes. In glioma preclinical models, neutrophils promote tumor growth and orchestrate the resistance to anti-angiogenic therapies. Nevertheless, recent data indicate that neutrophils can be activated to directly kill tumor cells or to orchestrate the anti-tumoral response. Here, we review current knowledge about the role of neutrophils in glioma and their possible involvement in new strategies to improve current cancer therapies.

KEYWORDS: cancer immunotherapy; chemokines; glioma; immunotherapy; inflammation and cancer; neutrophils

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