ROLE OF CX_3CR1^+ MACROPHAGES IN TUMOR MICROENVIRONMENT

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It is recognized that myeloid cells of the innate immunity infiltrating the tumor micro-environment favour the proliferation of cancer cells and their invasive ability [1]. In particular, macrophages represent the most abundant leukocyte population recruited at tumor sites, from early stages till the occurrence of metastasis [2]. The chemokine receptor CX_3CR1 is expressed by different immune cells types, including monocytes, and is abundantly expressed in tissue resident non-inflammatory macrophages, whose role in cancer is not completely defined. We investigated the role of CX_3CR1^+ macrophages in a mouse model of fibrosarcomas: MN-MCA cells (a methyl-colantrene induced fibrosarcoma) have been injected intramuscularly in $CX_3CR1^{gfp/gfp}$ and $CX_3CR1^{+/gfp}$ mice, and tumor growth evaluated. Optical in vivo imaging analysis showed no difference in tumor growth between CX_3CR1 WT and deficient mice. However, $CX_3CR1^{gfp/gfp}$ mice showed a significantly increased tumor-related inflammation, with higher number of tumor-associated macrophages as well as increased number of vessels. To better characterize the functionality of these vessels, blood flow will be analysed by FLow Image Correlation Spectroscopy (FLICS) [3] . In addition, optical in vivo imaging will be used to evaluate the formation of lung distant metastasis, normally occurring within 4 weeks after tumor cells injection.

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