ABSTRACT

REGULATORY T CELLS RECOVERY AFTER CHEMOTHERAPY SHAPE THE MYELOID-LANDSCAPE IN LUNG TUMORS

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Regulatory T cells (Tregs) and tumor-associated macrophages (TAMs) are major immune components of the tumor microenvironment promoting tumor progression and limiting the efficacy of chemotherapy. While Tregs are well known for their immune suppressive activity toward the adaptive immune system, their action toward the mononuclear phagocytes compartment is ill-defined. We observed that following chemotherapy in NSCLC and mouse lung tumor, that Tregs shape an anti-inflammatory myeloid-landscape by rapidly dampening the recruitment of TNFα-producing inflammatory-monocytes and increasing TGFβ expression upon differentiation into TAMs. Chemo-immunotherapy using anti-TNFR2, to preferentially target tumor-infiltrating Treg, altered their dynamic of interactions with tumor-monocytes and TAMs, limited their anti-inflammatory action and improved survival in mouse models. Chemo-immunotherapy targeting the Tregs and TAMs-mediated synergic immunosuppressive recovery has a strong therapeutic potential as an alternative or along immune-checkpoint blockade.

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