Mediators of Inflammation

Hindawi

Special Issue on

Macrophages and Neutrophils: Regulation of the Inflammatory Microenvironment in Autoimmunity and Cancer

CALL FOR PAPERS

The pathophysiology of both autoimmune and cancer diseases involves innate immune cells, particularly macrophages and neutrophils that demonstrate high plasticity. Those are recruited by different mediators secreted from tissue or tumor cells, which sustain their survival and reprogram them to secrete factors that promote disease progression.

In tumors, the contribution of M2-polarized tumor-associated macrophages (TAMs) and of the recently identified N2-polarized tumor-associated neutrophils (TANs) has been described. These cell subsets expand with tumor progression and secrete increased amounts of proangiogenic, prometastatic, and immunosuppressive mediators to promote tumor growth and metastasis. However, the details of their interaction with other cell types that regulates their activity and their ability to generate different microenvironmental niches in the primary tumor and in the metastatic site have not been fully elucidated.

Macrophages play a pathogenic role in autoimmune diseases, and macrophage polarization can be altered at different stages of the disease, or both M1- and M2-macrophages can coexist in the hypoxic microenvironment, as recently was observed in rheumatoid arthritis. The balance between differently polarized macrophages could determine the course of the disease, and modulation of this balance could become a therapeutic goal. Following the late discovery of TANs in tumors, a role for neutrophils is now gaining more importance in the pathophysiology of autoimmune diseases

We invite investigators to contribute original research and review articles that address the mechanisms by which macrophages and neutrophils contribute to the progression of autoimmune diseases, tumor growth, and metastasis. Comparison between autoimmune diseases and cancer could highlight the similarities and differences between the phenotypes and functions of macrophages and neutrophils. Higher priority will be given to papers exploring or discussing the interactions and possible cooperation between these two cell types.

Potential topics include, but are not limited to:

- Monocyte, macrophages, and neutrophils phenotyping: advances and limitations
- TAMs and TANs recruitment into the tumor and the premetastatic niche
- Polarization and regulation of TAMs and TANs in different niches of the inflammatory microenvironment
- Macrophages and neutrophils as sensors of their inflammatory microenvironment
- Effect of tissue/tumor cells interactions with macrophages and neutrophils on their activity
- Cooperation between macrophages and neutrophils in the inflammatory microenvironment
- Therapeutic interventions that change the macrophage or neutrophil polarization and function (e.g., chemotherapy, "biologics" as antibodies)

Authors can submit their manuscripts via the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/mi/mn/.

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