The trafficking of leukocytes is essential for many aspects of vascular biology and pathology in health and disease. Sequential steps of leukocyte recruitment to the vascular wall, e.g., adhesion and emigration, are governed by chemokines, a family of small chemotactic peptides, which serve both inflammatory and homeostatic functions. Beyond controlling the extravasation, patrolling, and subsequent fate of different leukocyte subsets in the context of immune responses, recent evidence has emerged to implicate chemokines in the regulation of other cell types, namely in platelet activation and vascular endothelial and smooth muscle cell properties. Therefore, chemokines may not only be of pivotal importance to immune-related vascular diseases, such as atherosclerosis and transplant arteriopathy, but also involved in vasodynamics, excessive remodeling, and atherothrombotic complications. In addition, chemokines appear to contribute to the balance of angiogenesis and angiostasis.

The current series of reviews will focus on the role of chemokines in primary atherosclerosis and plaque stability, on their involvement in arterial remodeling and dysfunction, and in transplant vasculopathy. This will be complemented by reviews on the regulatory function of chemokines in platelet activation, thrombosis, and vessel formation, and on their value in cardiovascular risk prediction.

Articles in this series:
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