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MAST CELLS: ROLES IN THE MAINTENANCE OF PHYSIOLOGICAL FUNCTIONS AND IN THE PATHOPHYSIOLOGY OF DISEASE

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Since first described by Paul Ehrlich in 1878, mast cells have been mostly viewed as effectors of allergy. It has been only in the past two decades that mast cells have gained recognition for their involvement in other physiological and pathological processes. Mast cells have a widespread distribution and are found predominantly at the interface between the host and the external environment. Mast cell maturation, phenotype and function are a direct consequence of the local microenvironment and have a marked influence on their ability to specifically recognize and respond to various stimuli through the release of an array of biologically active mediators.

The aim of this study was to summarize the current understanding mast cell functions under physiological and pathological conditions.

We conducted a literature review of MEDLINE® analyzing results of studies that examined role of must cells in pathophysiological conditions in 2007-2017 (23 articles).

Mast cells remain fascinating cells, yet many facets of their physiological role in the immune system still need to be determined and understood. According to literature data mast cells either contributed to protection (as in toxin degradation or bacterial resistance) or were harmful (as in anaphylaxis or inflammatory exaggeration of burn injuries). By contrast, widespread functions of mast cells in innate and adaptive immunity, as well as in autoimmunity, immune metabolic diseases, and in many other areas remain currently ambiguous.