

LETTER TO THE EDITOR

Mast cells in tumors. First evidence

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Dear Editor,

Paul Ehrlich (Figure 1), who discovered mast cells (MCs) [1], found many MCs in carcinomas [2]. His pupil, Eugene Westphal, recognized that these cells were generally recognized localized at the periphery of the tumors [3]. This evidence was confirmed in different further studies. Other authors demonstrated that in slowly growing scirrhous carcinoma, tumor stroma contained numerous MCs. In more anaplastic tumors, stromal MCs were few and poor in granules. Numerous MCs were observed in the skin lesions of neurofibromatosis. Since then, the tumor MCs have been considered as a component of the tumor microenvironment [4].

Developing tumors secrete several molecules involved in MC recruitment. MCs, in turn, which are present in different precancerous lesions, release different factors, cytokines, and chemokines involved in tumor cell survival, remodeling of extracellular matrix and recruitment of other inflammatory cells, favoring cancer promotion or cancer suppression.

In the 20 years, mouse experimental models, such as MC-deficient W/W^v mice and human papillomavirus type 16 (HPV16) transgenic mouse model of squamous epithelial carcinoma [5, 6], and clinical studies in human patients have improved our knowledge on the role of MCs in tumor progression. For example, exhibited decreased tumor growth at early stage in a B16 melanoma model, which could be recovered by reconstituting MC population.

Conflict of interests

The author has no conflict of interests to declare.

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Figure 1 – A portrait of Paul Ehrlich (1854–1915). This photograph is in the public domain.