Unveiling the role of tumor micro-environment

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Commentary:
“Tumor micro-environment” plays a crucial role in the progression of cancer, neoplastic cell proliferation and spread of the tumor to the adjacent tissues. The tumor cells residing in the tumor micro-environment release certain cytokines and reprogram the adjacent normal cells to produce numerous growth factors and other cytokines and thereby leads to the growth of tumor cells, metastasis, tissue invasion which subsequently contributes for poor prognosis. The tumor micro-environment consists of cancer cells as well as stromal cells namely fibroblasts, endothelial cells, pericytes and immune cells. Tumor-associated macrophages (TAM) are most important among the stromal cells, which has a key role in the prognosis of neoplasm. Depending on the stimulus, the TAM gets polarized into M1 (pro-inflammatory and anti-tumor) or M2 (pro-tumor and anti-inflammatory) subtypes. The presence of interferon-gamma polarizes TAM into M1 subtype and M2 macrophage polarization is stimulated in the presence of IL-4, IL-10, IL-13, or TGF. There has been an established role of M1 and M2 subtypes in the prognosis as well as the specific treatment procedures of oral squamous cell carcinoma, as the increased level of M2 is suggestive of poor prognosis, high recurrence rate and also metastasis of the primary tumor into the regional draining lymph node. This poster discusses the presence and application of TAM in the field of cancerization and their role in prognosis.
References


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