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Review

Myeloid - derived cells in prostate cancer progression: phenotype and prospective therapies

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ASIA, American Spinal Injury Association; CTC, circulating tumor cell; PFS, progression - free survival; PSA, prostate - specific Ag; SSE, symptomatic skeletal event.

Abstract

Prostate cancer is the second most common cause of cancer mortality in men in the United States. As is the case for other tumor types, accumulating evidence suggests an important role for myeloid - derived cells in the promotion and progression of prostate cancer. Here, we briefly describe myeloid - derived cells that interact with tumor cells and what is known about their immune suppressive function. We next discuss new evidence for tumor cell–mediated myeloid infiltration via the PI3K/PTEN/AKT signaling pathway and an alternative mechanism for immune evasion that may be regulated by an endoplasmic reticulum stress response. Finally, we discuss several interventions that target myeloid - derived cells to treat prostate cancer.