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Inflammatory events influencing the chemical induced-squamous cell carcinoma

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Abstract

The host immune system is regulated by both innate and adaptive immune responses to protect it from the attack of cancer cells. The tumor microenvironment, which is orchestrated by inflammatory cells, affects malignant cells through the production of cytokines, chemokines, growth factors, prostaglandins, reactive oxygen species (ROS) and nitric oxide (NO). However, mechanisms resultant from immune response (i.e. ROS, NO) can be involved with the initiation and promotion of several types of tumor as well as connected to a tumor-specific T cell response. Besides, cancer cells are able to grow by escaping from the attack of immune cells, thus, disrupting the host immune system, which is progressively suppressed as a result of tumor progression and metastasis.

Therefore, inflammatory responses play decisive roles in different stages of tumor development, including initiation, promotion, progression, invasion, and metastasis. Because the tumor microenvironment consists of neoplastic cells and a heterogeneous group of untransformed cell populations, including leukocytes, soluble inflammatory factors, the moment when different cell group act seems to be crucial for defense or susceptibility. Such a complex microenvironment can support tumor growth, protect the tumor from host immunity, encourage therapeutic resistance and provide place for metastasis to occur.

Biography

DDS since 1994, she studied immune response against *Candida albicans* in her master and PhD, with more than 10 articles published about this issue. Upon completion of her postdoctoral at the University of São Paulo in 2012 she demonstrated aspects of inflammation and inflammasome influencing the beginning and establishment of squamous cell carcinoma. These investigations resulted in several relevant papers and interesting data. She has contributed as collaborated researcher studying the immune response against other oral and systemic infections at the University of São Paulo. She also works as collaborator researcher in studies about plant medicines at the same institution.