

Causality: autoimmunity and cancer

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Abstract

Introduction: The effectors of autoimmune diseases are the mechanisms of hypersensitivity. These processes also appear in cancer, which can give rise to autoinflammation.

Objective: To describe the causality between autoimmune diseases and cancer.

Material and Methods: A bibliographic review was made using the Google Scholar and articles of free access in the Pubmed and Scielo database from January 2014 to February 2019. The search terms were used according to the DeCS and MeSH descriptors.

Development: Autoimmune diseases are chronic inflammatory processes caused by failures in tolerance. The mechanisms and specific processes that initiate the damage are still unknown. The activity of inflammatory cells and soluble pro-inflammatory mediators leads to a greater recruitment of endothelial cells and promotes angiogenesis. Persistent inflammation (chronic or low grade) can often promote tumor development, tumor progression and invasion. In the tumor environment there is release of molecular patterns associated with damage (DAMPs), which mimic a sterile lesion and recruit cells of innate immunity, which can promote an inflammatory environment and cause an autoimmune phenomenon.

Conclusions: Inflammatory responses can improve tumor growth and progression. Cancer can develop self-immunity or arise secondary to the genetic and epigenetic changes of autoinflammation. The causality between cancer and autoimmunity is bi-directional due to inflammatory processes.

Keywords: autoimmunity; Cancer; inflammation; autoimmune diseases.