MEDIBEATS
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In Endocrinology

Autoimmune Thyroid Diseases

- Autoimmune thyroid diseases (AITD) result from a dysregulation of the immune system leading to an immune attack on the thyroid.
- AITD are T cell-mediated organ-specific autoimmune disorders.
- The prevalence of AITD is estimated to be 5%; however, the prevalence of antithyroid antibodies may be even higher.
- The AITD comprise two main clinical presentations: Graves' disease (GD) and Hashimoto's thyroiditis (HT), both characterized by lymphocytic infiltration of the thyroid parenchyma.
- The clinical hallmarks of GD and HT are thyrotoxicosis and hypothyroidism, respectively.
- The mechanisms that trigger the autoimmune attack to the thyroid are still under investigation.
- Epidemiological data suggest an interaction among genetic susceptibility and environmental triggers as the key factor leading to the breakdown of tolerance and the development of disease.
- Recent studies have shown the importance of cytokines and chemokines in the pathogenesis of AT and GD.
- In thyroid tissue, recruited T helper 1 (Th1) lymphocytes may be responsible for enhanced IFN-γ and TNF-α production, which in turn stimulates CXCL10 (the prototype of the IFN-γ-inducible Th1 chemokines) secretion from the thyroid cells, therefore creating an amplification feedback loop, initiating and perpetuating the autoimmune process.
- Associations exist between AITD and other organ specific (polyglandular autoimmune syndromes), or systemic autoimmune disorders (Sjögren's syndrome, rheumatoid arthritis, systemic lupus erythematosus, systemic sclerosis, cryoglobulinemia, sarcoidosis, psoriatic arthritis).
- Moreover, several studies have shown an association of AITD and papillary thyroid cancer.
- These data suggest that AITD patients should be accurately monitored for thyroid dysfunctions, the appearance of thyroid nodules, and other autoimmune disorders.

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