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INTERACTION BETWEEN INFLAMMATORY PATHWAY ACTIVATION AND THYROID CANCER.

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OBJECTIVES

Inflammatory microenvironment is an essential component of all tumors, including thyroid cancer. Autoimmune thyroid diseases are often associated with thyroid cancer. CD25, expressed in Treg cells and in B cells have been found to be associated with autoimmune thyroid diseases and the NF-κB pathway is critical to tumor formation regulating immune-related genes and pro-inflammatory cytokine.

METHODS

Protein expression of CD25 and NFkB and its phosphorylated form was analyzed by immunohistochemistry in 80 patients with thyroid cancer (10 cases of cancers with Hashimoto's thyroiditis and 70 cases without).

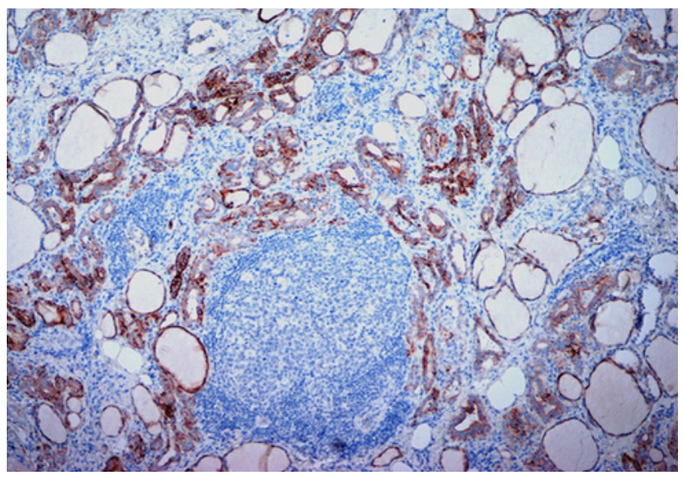
RESULTS

CD25 was mainly detected in the nucleus of the inflammatory cells such as in the thyrocytes and neoplastic cells. Protein staining was detected in the T-lymphocytes of the outermost zone of the lymphoid follicles. Moreover, in all cancer alterations there was a higher level of p-NFκB than in the surrounding tissues. Again, p-NFκB staining was evident in neoplastic cells but not evident in inflammatory cells.

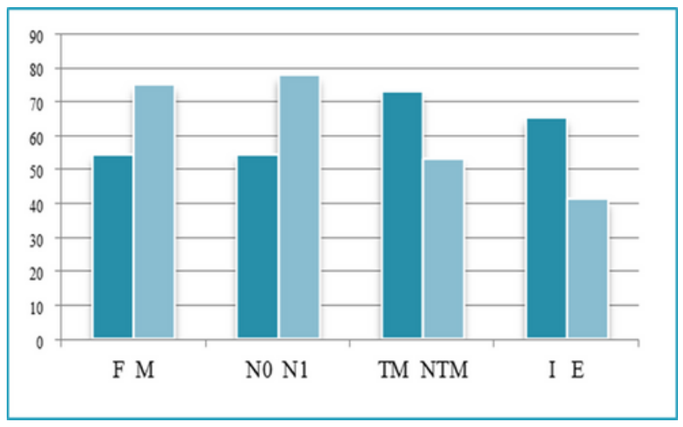
CONCLUSION

Strong inflammatory infiltrate in the tumor microenvironment is correlated with an invasive phenotype. CD25 and p-NFkB levels were statistically significantly overexpressed in cancer cells.

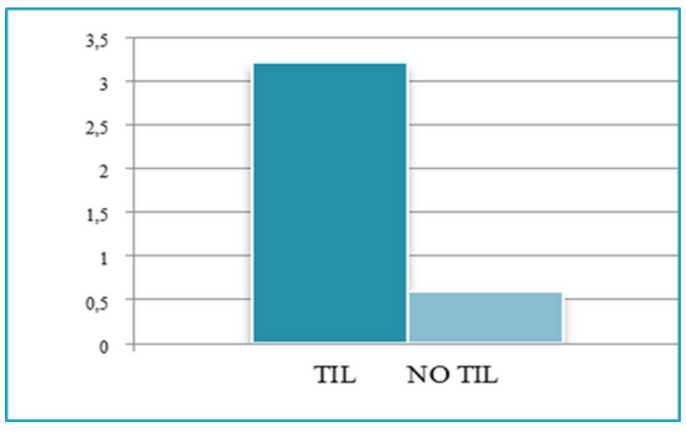
GRAPHS & TABLES RESUS



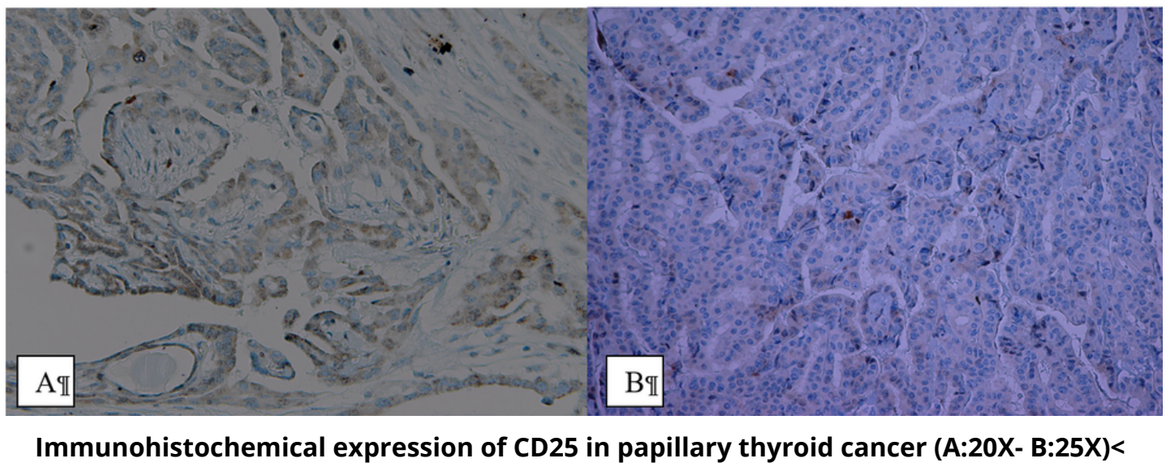
Immunohistochemical expression of p-NFkB in Hashimoto's thyroiditis. Note the intense cytoplasmic staining of thyrocytes and absent expression for the same antibody in the germinal center (10X)



Univariate statistical analysis (ANOVA/t Test): cytoplasmic expression of p-NFkB and statistically significant parameters



Univariate statistical analysis (ANOVA/t Test): nuclear expression of p-NFkB and presence of intratumoral lymphocytes



Immunohistochemical expression of CD25 in papillary thyroid cancer (A:20X- B:25X)<