DECREASED CD4+CD152+ T CELL SUBSET IN CHILDREN WITH CHRONIC AUTOIMMUNE THYROIDITIS AND ITS CORRELATION WITH THE LEVEL OF ANTITHYROID ANTIBODIES

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CTLA-4 is one of the basic antigens involved in immune responses regulation associated with autoimmune thyroid diseases.

Objective: The aim of the study was to evaluate whether the surface expression of CTLA-4(CD152) on Tcells is correlated with laboratory autoimmune markers in children with Hashimoto's disease.

Material and Methods: The blood samples were obtained from 45 children with the chronic autoimmune thyroiditis (AT) at the mean age 14.8 ?2.35, and from 55 healthy children, age matched, free of allergic, immune and hematological disorders and with a normal thyroid function. The anti-thyroid antibodies were measured by Microparticle Enzyme Immunoassay (AxSYM Anti-Tg, AxSYM Anti-TPO, Abbott). The Tcell phenotype was evaluated by the flow cytometer Beckman Coulter EPICS XL 4C (EPICS XL/XL-MCL, version 2.0), with the use of monoclonal antibodies combination: CD4- FITC/ CD28 -PC5/ CD152 -PE and CD8 -FITC/ CD28 -PC5/ CD152 -PE obtained from Immunotech Beckman Coulter Company, France. The results were analyzed by T-student test, Mann- Whitney U-test and Spearman test.

Results: The percentage of T cells with CD152 expression was significantly decreased in children with Hashimoto's thyroiditis in comparison to healthy controls ($p<0.000000002$). Statistically significant negative correlation was found between anti-thyroglobuline antibodies level and the percentage of CD4+CD152+ T cells ($r=-0.34$; $p<0.05$). Anti- thyroperoxidase antibodies did not correlate with CD152 expression.

Conclusion: In AT children the number of CD4+CD152+ Tcells was decreased and negatively correlated with antithyroglobuline antibodies level.