THE EVALUATION OF CD8+CD122+ T CELLS IN CHILDREN WITH AUTOIMMUNE THYROIDITIS

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*Authors declare no conflict of interest

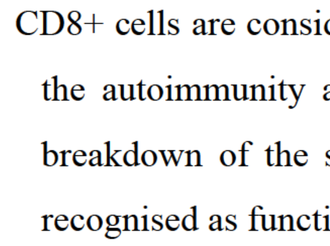
Background

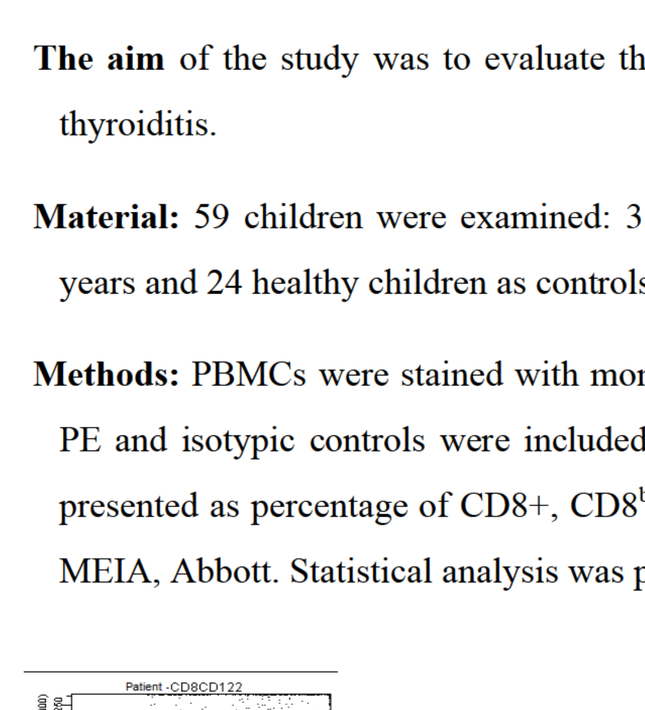
CD8+ cells are considered to be the basic T cell subset playing a major role in the pathogenesis of Hashimoto's thyroiditis. The mechanisms initiating the autoimmunity are still under consideration, but one of the basic steps of that process is dysfunction of natural regulatory cells leading to breakdown of the self-tolerance. The best known subset of natural Tregs are CD4+Foxp3+ T, but recently other subsets of T and B cells are recognised as functional regulatory cells, among which CD8+ T cells expressing CD122 antigen.

The aim of the study was to evaluate the contribution of CD8+CD122+ cells in the whole amount of CD8+ T cells in children with autoimmune thyroiditis.

Material: 59 children were examined: 35 with chronic autoimmune thyroiditis type Hashimoto (AIT), mean age 11.37±3.6 years; range: 4,5–17.5 years and 24 healthy children as controls.

Methods: PBMCs were stained with monoclonal antibodies according to manufacturer instructions (Becton Dickinson): anti-CD8 FITC, anti-CD122 PE and isotypic controls were included. The samples were evaluated using flow cytometer FACS Canto II (Becton Dickinson). The results were presented as percentage of CD8+, $CD8^{bright}$ and $CD8^{dim}$ expressed CD122 antigen. TSH, thyroid hormones and thyroid antibodies were evaluated by MEIA, Abbott. Statistical analysis was performed using Mann- Whitney U- test and the correlation tests.





Results.

In children with AIT the percentage of $CD8^{dim}$ CD122+ was significantly higher than in control group (46,99 ± 13,9 % *vs* 41,25 ± 11,8 %, respectively, $p<0.05$) whereas the $CD8^{bright}$ CD122+ cells percentage was similar in both groups (42,64 ± 18,4 % in AIT *vs* 45,17 ± 18,3% in healthy children). In children with AIT no significant correlations between the subsets of CD8+CD122+ / $CD8^{bright}$ CD122+ cells and hormonal or antibodies status were found.

Conclusions.

In the study we expected to find the difference in the number of CD8+CD122+ cells in AIT children and in healthy controls. An increased contribution of $CD8^{dim}$CD122+ cells in children with AIT may suggest that not only the difference in the cell number is important to its normal function but also the dysbalance in cell subsets.

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