



# Activated and Memory T Lymphocytes in Children with Gaucher Disease

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## Abstract:

Gaucher disease (GD) is the most prevalent lysosomal storage disorder. Gaucher disease is associated with remarkable alterations in the immune system, and GD patients are more susceptible to infections and are at a higher risk of developing autoimmune disorders and malignancies. In a case-control study, we used three-color flow cytometric immunophenotyping for determination of the frequency of lymphocyte subpopulations and activated T lymphocytes among 18 children with GD1 under enzyme replacement therapy managed in Assiut University Hospitals. We found significant increases in the frequencies of total lymphocytes, CD19<sup>+</sup>, CD3<sup>+</sup>, CD4<sup>+</sup>, and CD8<sup>+</sup> in children with GD1 when compared to healthy control. The frequencies of activated T lymphocytes (CD3<sup>+</sup>HLA-DR<sup>+</sup>), activated T-helper cells (CD4<sup>+</sup>HLA-DR<sup>+</sup>), and activated T-suppressor/cytotoxic cells (CD8<sup>+</sup>HLA-DR<sup>+</sup>) were significantly higher in GD1 as compared to healthy children. Our data show that the increased proportion of activated T lymphocytes in children with GD1 raises the issue of their possible involvement in the pathogenesis of the immune dysfunction seen in these patients. Our data suggested that the activated T lymphocytes could play a role in the clinical course of GD1. The relationship of these cells to immune disorders in GD1 children remains to be determined.

## Keywords:

Activated T lymphocytes □ Children □ Gaucher disease

## Published In:

Arch. Immunol. Ther. Exp. , NULL , NULL