

Salivary hexosaminidase B in children with type 1 diabetes

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ABSTRACT

Introduction: Children type 1 diabetes is accompanied by inflammation and microangiopathy pro-ceeded with increased degradation of tissues. Nacetyl- β -hexosaminidase (HEX) is the most active of exoglycosidases degrading oligo-saccharide chains of glycoconjugates (glycoproteins, glycolipids and proteoglycans).

Purpose: To evaluate the hexosaminidase B (HEX B) activity in the saliva of children with type 1 diabetes.

Materials and methods: The study was performed in 35 children with type 1 diabetes and 20 healthy children. Salivary HEX B activity was determined by the colorimetric, and protein by bicinchoninic

acid methods. The HEX B activity concentration was expressed in pKat/mL and specific activity in pKat/ μ g of protein.

Results: A significant increase in the concentration and the specific activity of HEX B in the saliva of children with type 1 diabetes, as compared to healthy children, was found.

Conclusion: Children suffering from type 1 diabetes have increased catabolism of salivary glycoconjugates by HEX B, which potentially may be useful in the diagnosis of type 1 diabetes in children.

Key words: hexosaminidase isoenzyme B (HEX B), type 1 diabetes, children, saliva.

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