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COMPARISON OF FRUCTOSAMINE AND GLYCATED HAEMOGLOBIN IN CHILDREN WITH TYPE 1 DIABETES MELLITUS.

In view of the importance of strict glycaemic control for the prevention or delay of diabetic complications interest is increasing in methods for monitoring therapeutic control of blood glucose concentrations. Commonly used for retrospective assessment is the measuring of glycated haemoglobin (HbA_1). Recently a simple, rapid method of measuring colorimetrically the circulating concentration of glycated proteins (fructosamine-test "Roche") was described. HbA_1 values are assumed to give a longer (4-6 weeks) retrospective estimation of blood glucose than fructosamine (2-3 weeks). In 6 children (age: mean 8.4 years, range 2.2-12.6) with newly diagnosed Type 1 diabetes mellitus plasma fructosamine and glycated haemoglobin were compared in respect to their decay during the first month after diagnosis during well controlled glycaemia. The decay of the plasma fructosamine and HbA_1 was calculated applying exponential equations. The estimated half-lives of fructosamine (mean 57.2 days, range 40.7-77) and HbA_1 (mean 59.7 days, range 43.3-82) was not significantly different. HbA_1 and plasma fructosamine values were highly correlated (r= 0.91). A similar correlation (r= 0.86) was found in an ambulatory population of diabetic children (n: 55, age: 2-16 years). In conclusion we suggest, that the fructosamine-test reflects glycaemic control under treatment similar to HbA_1.

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