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Autor(en) des Beitrags:
Gerstl, EM; Rabl, W; Rosenbauer, J; Gröbe, H; Hofer, SE; Krause, U; Holl, RW

Titel des Beitrags:
Metabolic control as reflectet by HbA1c in children, adolescents and young adults with type-1 diabetes mellitus: combined longitudinal analysis including 27,035 patients from 207 centers in Germany and Austria during the last decade.

Abstract:
INTRODUCTION: While the central role of HbA1c levels for the prediction of micro- and macrovascular complications in patients with type 1 diabetes is generally accepted; recommendations in current guidelines and the level of metabolic control actually achieved during routine care differ widely. Limited information is available on factors that influence metabolic control in the pediatric age group and during the transition from pediatric to adult diabetes care. In a large prospective multicenter database (DPV-Wiss), 338,330 individual HbA1c measurements from 27,035 patients with type-1 diabetes (94,074 observation years) were recorded between 1995 and 2005. Data were anonymously transmitted from 207 institutions. HbA1c values were mathematically standardized to the DCCT normal range (4.05-6.05%). The SAS 9.1 software was used for statistical analysis using nonparametric statistics. Median HbA1c for all measurements was 7.8%, with a strong effect of diabetes duration: median HbA1c at onset was 9.1%, during the first 2 years of diabetes 7.1% with a subsequent increase to 7.9% in patients beyond the remission phase (>2 years, 20,314 patients); a strong age dependency was present. HbA1c above the
recommended guidelines was found in 23%. For all age groups, girls/women had higher HbA1c values compared to boys (mean difference 0.1%, p<0.0001). Seasonal variation was remarkably small with the lowest HbA1c values in September (mean: 7.86%) and highest values in January (8.08%; p<0.0001). Some improvement in HbA1c was observed comparing three periods: 1995-1997, 1998-2000 and 2001-2005; after remission the median HbA1c decreases from 8.5% to 7.6%. In a multivariate model, a significant influence on HbA1c was detected for age (p<0001), duration of diabetes (p<0.0001), gender (p<0.02), minority status (p<0.0001), season (p<0.0001), treatment period (p<0.0001), insulin therapy (p<0.0001) and center effect (p<0.0001). CONCLUSIONS: Both patient-related and treatment-related variables have a strong influence on metabolic control achieved in pediatric and young adult patients with T1DM. In contrast to wide-spread belief, metabolic control is only marginally better in summer compared to winter. Some improvement in metabolic control was observed during the last 10 years.