

INTRODUCTION AND AIM OF WORK

Diabetes mellitus is a chronic metabolic disease with many acute and chronic complications. Acute complications of diabetes mellitus are diabetic ketoacidosis, hypoglycemia and infections. Chronic complications are mainly due to the development of diabetic microangiopathy resulting in retinopathy, nephropathy and neuropathy (Bodansky et al., 1982).

Both the duration of diabetes and its metabolic control have been identified as the risk factors most strongly associated with the development of diabetic complications (Pirat, 1978; Bodansky et al., 1982). Long term glycemic control is strongly recommended for prevention of diabetic complications (Allgrove, 1988).

The ideal management for patients would provide an integration of blood glucose levels over as long time as possible. Several measurements of glycosylated hemoglobin A_{1c} go furthest towards achieving this ideality and such measurements have been routinely available as part of many diabetic service centers (Byrne et al., 1984).

Larsen and his associates (1990), have reached to the conclusion that regular measurement of hemoglobin A_{1c} leads to change in diabetes mellitus and improvement of metabolic control indicator by lowering of hemoglobin A_{1c} values. Additionally, improvement of glycemic control may be reflected also on number of diabetic ketoacidosis, hospital admission and increase in the dose of insulin (Allgrove, 1988).

Several reports now supports the view that most patients with IDDM have residual beta cell function at the onset of the disease, and that the

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remaining capacity for the insulin secretion, namely c-peptide might be clinically important for at least the short term prognosis (Ivarson et al., 1987). Other investigators suggested the high residual amount of c-peptide are correlated with better metabolic control and lower requirement for exogenous insulin (Heding, 1975).

The aim of the study is to conduct a prospective evaluation of the metabolic control of a group of IDDM. patients attending the Endocrine Pediatric Unit at Ain Shams University Children's Hospital and to assess the beta cell function in diabetic children by measuring the plasma c-peptide and plasma insulin concentrations and to assess the exocrine function of the pancreas by measuring the plasma lipase and amylase enzymes and relating such levels to age, sex, degree of metabolic control, weight and duration of diabetes.