INTRODUCTION AND AIM OF THE WORK

Study of G.H. and GHRH in Diabetic Children

Insulin dependent diabetes mellitus (IDDM) is considered to be the commonest endocrinal disorder in childhood, here comes the importance of studying all its aspects *(Tuvemo and Gebre-Medhin, 1985)*.

Growth Hormone releasing hormone (GHRH) is secreted by the hypothalamus, then through portal like circulation to the anterior pituitary. It stimulates the release of growth hormone (G.H.) from the anterior pituitary *(Donnadieu et al., 1985)*.

Growth hormone releasing hormone has been isolated from pancreatic tumours in patients with acromegaly.

Infusion of pancreatic factor releases growth hormone without affecting other anterior pituitary hormones *(Christpfodes et al., 1984)*.

Since GHRH injection has been shown to stimulate insulin in a dose and a glucose dependent fashion, circulating GHRH could be of physiological interest for regulation of glucose metabolism *(Hermansenk et al., 1986)*.

Human growth hormone (somatotropin, G.H.) is a polypeptide containing 191 amino acids. The action of G.H. is mediated by an

insulin like growth factor (IGFI) whose original name was somatomedin C *(Edwards, 1986)*.

The release of growth hormone into the circulation is episodic and the half life of G.H. is only 20 - 25 minutes.

Physiologically G.H. is released into circulation in response to exercise and to relative hypoglycaemia that occurs 3 - 5 hours after meal. The fasting G.H. levels in the sera of children is 5.0 ng/ml for females and 5.6 ng for males *(Donnadieu et al., 1985)*.

When glucose tolerance test is performed, the growth hormone secretion is suppressed by a rise in blood glucose. So, it is expected that is a sort of G.H. inhibition by persistent hyperglycaemia in insulin dependent diabetic children.

The aim of this work is to find out the relationship between these hormones (Growth hormone releasing hormone GHRH, and the growth hormone G.H.) and the growth of insulin dependent diabetic children and the degree of control of diabetes in these children.