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Loss of growth hormone responsiveness to normal physiological stimuli during pregnancy.

[Nasrat HA](#), [Ardawi MS](#), [Sabbagh SA](#).

Department of Obstetrics and Gynaecology, King Abdulaziz University Hospital, Jeddah, Saudi Arabia.

Abstract

The response of pituitary GH to acute hyperglycaemia induced by 75 g oral glucose load in 73 pregnant women at various stages of gestation was examined. According to the age of gestation, patients were grouped into three groups: less than 20 weeks, between 20-30 and more than 30 weeks. Plasma glucose, GH and C-peptide were measured at fasting and then at 30, 60, 120 and 180 min following the glucose load. There was a significant increase in plasma GH concentration with weeks of gestation. The results also showed a loss of the normal physiological suppressive effects of hyperglycaemia on GH secretion in tests performed after 20 weeks of gestation. Only in tests performed before 20 weeks, there was a significant negative correlation between plasma glucose and GH values. These findings are consistent with recent reports suggesting an almost complete suppression of pituitary GH secretion by a placental variant of GH. These changes in the dynamics of GH secretion suggest that, in pregnancy, GH plays a more significant role than was previously thought