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[PubMed Central](#) 1: [Metabolism](#). 1999 Aug;48(8):1003-10.[Related Articles, Links](#)**Individualized low-dose growth hormone (GH) treatment in GH-deficient adults with childhood-onset disease: metabolic effects during fasting and hypoglycemia.****[Bulow B](#), [Agardh CD](#), [Eckert B](#), [Erfurth EM](#).**

Department of Internal Medicine, University Hospital, Lund, Sweden.

Growth hormone (GH) has insulin-antagonistic effects, and GH secretion is augmented during fasting and hypoglycemia. In the present study, 10 patients aged 21 to 28 years with childhood-onset GH deficiency (GHD) were studied during a 24-hour fast and a hypoglycemic glucose clamp before and after 9 months of GH replacement. During the 24-hour fast, blood glucose, serum insulin, and serum free fatty acid (FFA) levels were measured. In the hypoglycemic clamp, the counterregulatory hormones (plasma catecholamines, serum glucagon, and serum cortisol), serum insulin-like growth factor (IGF) binding protein-1 (IGFBP-1), serum FFA, and glucose uptake were measured. The GH dose was adjusted to the response of serum IGF-I, and the median GH dose was 0.14 IU/kg/wk (range, 0.08 to 0.19). At the end of the study, serum IGF-I levels were normalized in all but one patient, in whom serum IGF-I was above the normal range. Nine months of GH treatment did not cause any significant changes in the blood glucose level, insulin to glucose ratio, or serum FFA level during the 24-hour fast, and none of the patients experienced hypoglycemia either before or after GH treatment. However, GH therapy resulted in increased insulin resistance during hypoglycemia, without changes in the counterregulatory hormonal responses, serum IGFBP-1, or serum FFA.

PMID: 10459565 [PubMed - indexed for MEDLINE]

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