The effects of ?1-adrenergic blockade on the growth response to growth hormone (GH)-releasing hormone therapy in GH-deficient children

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Acute suppression of SRIH secretion with a ?-adrenergic antagonist can increase the GH response to GHRH.To determine whether chronic ?-blockade could enhance the growth-promoting effects of GHRH therapy, we conducted a double blind, placebo-controlled, randomized, cross-over trial of coadministration of the selective ?1-antagonist atenolol together with GHRH in 11 GH-deficient children. In randomly chosen order, each patient received two 12-month treatment periods with a single daily injection of GHRH (20 µg/kg, sc, at bedtime), plus daily oral administration of either atenolol (1 mg/kg) or placebo. The growth velocity increased, rising from a mean ± SD of 2.6 ± 0.4 cm/yr before treatment to 5.4 ± 1.0 cm/yr during the first year of treatment with GHRH plus placebo and to 6.8 ± 1.2 cm/yr during the first year of treatment with GHRH plus atenolol. The mean growth velocity during treatment with GHRH plus atenolol was significantly greater than that observed during GHRH plus placebo (P < 0