

Effects of Insulin-Like Growth Factor on Linear Growth, Head Circumference, and Body Fat in Patients With Laron-Type Dwarfism

Five children with Laron-type growth hormone insensitivity syndrome (LTS) were treated with recombinant insulin-like growth factor 1 (IGF-1) injected SC once daily at an initial dose of 150 µg/kg/d. The dose then was adjusted according to serum IGF-1 concentration. Striking changes in growth occurred from the first month, with a growth velocity corresponding with 8.8 to 13.6 cm/yr. Body fat, measured by subscapular skin-fold, decreased in the same time.

In 2 of these LTS patients, continuation of treatment for 10 months induced important morphologic changes, characterized by maximal limb growth and, unexpectedly, a striking and early increase of head circumference, even at age 13 to 14 years. There were no undesirable side effects, particularly metabolic. This suggests to the authors a possible effect on brain growth. Though preliminary, these results are encouraging for long-term treatment of LTS and probably other growth hormone insensitivity syndromes.

Laron Z, Anin S, Klipper-Aurbach Y, et al. *Lancet* 1992;339:1258-1261.

Editor's comment: This is the second report that IGF-1 increases the growth of LTS individuals. The first was by Walker et al (*N Engl J Med* 1991;324:1482). IGF-1 has the potential to be as important a therapeutic agent as growth hormone. We can anticipate in the next few years reading many studies designed to test the effectiveness of IGF-1 in metabolic disorders as well as in growth disorders. Fortunately, it has been demonstrated that IGF-1 can be given to humans with minimal concern of producing hypoglycemia from its insulin-like action. (Takano, et al. *Growth Regulation* 1991;1:23-28.)

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