

Insulin-like Growth Factors I and II in Healthy Man: Estimations of Half-Lives and Production Rates

The authors measured the half-life of insulin-like growth factors (IGFs) in 2 normal young adult males after a bolus injection of radio-iodinated IGF-I and IGF-II, with measurement of the serum levels of both the free IGFs and the IGFs bound to their specific carrier proteins. They found a half-life of 10 to 12 minutes for free-labelled IGF-I and -II, 20 to 30 minutes for the 50-kDa bound complex, and 12 to 15 hours for the 200-kDa complex.

In a second step of the study, they infused recombinant IGF-I, 20 $\mu\text{g}/\text{kg}$ per hour intravenously, during 6 days in the same subjects and measured the different circulating forms of IGFs by RIA after chromatographic separation. By this means, the calculated production rates were found to be 10 mg/d for IGF-I and 13 mg/d for IGF-II.

This agrees with the earlier findings, by the same group and by others, that the 200-kDa complex contains the major pool of IGF in human serum, and confirms that this

complex is mainly responsible for the relatively long half-life of IGF in humans. It suggests that, besides the main pool of 200-kDa, the free and the 50-kDa IGF pools, which have a rapid turnover and could account for daily IGF production, are the source of a shift toward the 200-kDa pool.

Guler HP, Zapf J, Schmid C, et al. *Acta Endocrinol* 1989;121:753-758.

Editor's Comment—*These physiological data in adult humans are possibly of great importance for the interpretation of measurements of IGFs, mainly of IGF-I, in growing children and adolescents. Probably measurement of free IGF-I and of the 2 main IGF-I carrier protein complexes could reduce the difficulty in correlating the results of routine IGF-I assays with such clinical data as height or growth rate.*

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