

Certain large forms of circulating immunoreactive human growth hormone are in fact immunoglobulins

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To explain frequent discordances between serum GH levels and clinical manifestation of acromegaly, we investigated the possibility that certain immunoglobulins G (IgGs) might be responsible for the displacement of [125 I]human (h) GH in the hGH RIA. We incubated dilute sera from seven active acromegalics (basal immunoreactive hGH, 22-313 μ g/L) with rat adipocyte plasma membranes adsorbed on polystyrene plates. IgGs that bound to GH receptor sites in the absence and presence of 250 nM hGH (for nonspecific binding) were detected using anti-hIgG (Fc-specific) antibody conjugated with alkaline phosphatase. In this system two of the seven sera studied tested positive for IgGs against GH-binding sites (serum 4 in 1:400 dilution, and serum 7 in 1:10 dilution). We studied further the serum with the highest titer. On Sephadex G-100, most of the GH-like immunoreactivity (assayed by RIA) present in serum 4 coeluted with IgGs (assayed by immunodiffusion) as a high mol wt (\approx 150 kDa) component. To