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1: Obes Res. 1996 Jan;4(1):45-54. Related Articles, Links

Body composition and tissue distributions in growth hormone deficient adults before and after growth hormone treatment.

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This study examines short and long-term effects of recombinant human growth hormone (rhGH) on body composition and regional tissue distributions by using a multicompartment technique based on computed tomography. Part I includes nine subjects aged 46 +/- 9 years with adult onset GH deficiency who were examined before and in the end of 6 months treatment with rhGH (0.4 U.kg-1.week-1) in a double-blind crossover trial. Part II is an ongoing open trial including seven of the males in part I. They were treated with rhGH (0.25 U.kg-1.week-1) over an additional period of 24 months. Adipose tissue (AT) was reduced by 4.7 kg ($p < 0.01$) while the muscle plus skin compartment (M) and visceral organs (V) were increased by 2.4 ($p < 0.05$) and 0.7 kg ($p < 0.01$), respectively, over 6 months of treatment with a high rhGH dose. A preferential lipid mobilization occurred in the visceral and subcutaneous trunk depots resulting in a changed AT distribution. Muscles of legs and arms increased while the increase of trunk muscles did not reach significance. The body composition changes were maintained over 2 years additional treatment. The preferential loss in visceral AT was further pronounced while other changes in tissue distributions observed during the first 6 months tended to be reversed on the lower rhGH dosage. It is concluded that growth hormone has profound and discordant effects on AT, M and V and with associated changes in tissue distributions. The beneficial effects on body composition seen in short-term treatment is preserved throughout an additional 24 months period of treatment.

Publication Types:
- Clinical Trial
- Randomized Controlled Trial

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