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[PubMed Central](#) 1: [Exp Clin Endocrinol Diabetes](#). 1996;104(4):327-33.[Related Articles](#), [Links](#)**Growth hormone substitution in growth hormone-deficient adults: effects on collagen type I synthesis and skin thickness.**[Kann P](#), [Piepkorn B](#), [Schehler B](#), [Lotz J](#), [Prellwitz W](#), [Beyer J](#).

III. Medizinische Klinik und Poliklinik, Johannes Gutenberg-Universitat, Mainz, Germany.

Growth hormone stimulates collagen type I synthesis. Collagen type I is a common matrix compound in a large number of connective tissues. The aim of our study was to prove whether a stimulation of collagen type I synthesis might be accompanied by a deposition of collagen type I in the skin (cutis). Twenty growth hormone-deficient hypopituitary patients were included in a randomised, double-blind, placebo controlled, prospective, twelve-month study (eighteen patients assessable at the end of the study). The patients were treated with recombinant human growth hormone 0.25 U/kg/week subdivided in daily subcutaneous injections beginning with half the dosage during the first four weeks. During the first six months half of the patients were treated with placebo. PICP, the indicator of collagen type I synthesis, was increased after six months of therapy when compared to placebo. Skin thickness measured by ultrasound at the forearm and mechanically at the dorsum of the hand with strong compression of the skin both increased significantly following growth hormone substitution. Our data indicate that the stimulation of collagen type I synthesis by growth hormone substitution is followed by a deposition of collagen type I in the skin.

Publication Types:

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