Abstract

Linear scleroderma (LS) is a localized form of scleroderma characterized by mononuclear cell infiltration and fibroblast proliferation. In the later stages of the disease, excessive collagen is deposited with concomitant skin and appendage atrophy. These symptoms suggest a breakdown of fibroblast cell function, and consequently, growth factors have been thought to play a role in the pathogenesis of LS. The present study examined the expression of TGF-β and PDGF in skin biopsies obtained from patients with LS and from normal subjects. Samples were prepared for immunohistochemistry. To identify TGF-β, two polyclonal antibodies were used: TGF-β1 (RaB4) and TGF-β2 (CL-B1/29) and, to identify PDGF, two monoclonal antibodies were used: PDGF-AA (3E-205) and PDGF-BB (1F-133). Staining for TGF-β1 and TGF-β2 was observed around blood vessels (endothelial cells), and sweat glands in both LS and normal skin. Staining for PDGF-AA and PDGF-BB was intense in endothelial cells and sweat glands in LS and normal skin. Mononuclear cell infiltrates and abnormal collagen bundles did not stain for TGF-β or PDGF. The strength and extent of staining was evaluated in tissues using a scale from zero (no staining) to four (strong staining). The amount of TGF-β1, TGF-β2, PDGF-AA and PDGF-BB was found similar in LS and normal skin. These results do not support the hypothesis that the excessive fibroblast cell activity and abnormal collagen deposition observed in LS are associated with downregulation of TGF-β or PDGF.

Keywords
linear scleroderma, growth factors