Autologous Fat Transplantation for Depressed Linear Scleroderma en Coup de Sabre - Induced Facial Atrophic Scars on the Forehead: Improvement of Appearance and Control of Disease Activity?

by JÜRGEN BAUERSCHMITZ | Hautklinik Universitätsklinikum Erlangen

Introduction: Facial linear scleroderma results in depressed atrophic scars. Structural fat-grafting is suitable for the volumetric restoration.

Methods: A 48-year-old female patient with linear scleroderma was treated for 25 years with Penicillin, Methotrexate, Mycophenolatmofetil, UV-A1, Tacrolimus. This decreased inflammation, but progression of depressed scars was not stopped. Two linear depressed atrophic scars were noted on the left mid-forehead with involvement of the glabellar nose and supraorbital eyebrow region, a third mould-like was nasolabial. Autologous fat transfer was performed according to the german guideline: Lipoaspiration under Tumescent-Lokal-Anaesthesia with a vacuum-syringe. After gentle filtration the lipoaspirate was injected. After two years a second grafting was conducted.

Results: The disease-progression with deep grooves could be stopped. After a good primary success fronto-nasal and fronto-orbital and a moderate success nasolabial the depressions subsequent relapsed partially within one year. A second lipotransfer was conducted.

Discussion: There is increasing experience in autologous fat-grafting to improve contour defects in the face associated with local scleroderma leading to depressed atrophic scars like “en coup de sabre”. Our patient showed volumetric improvement on the medial forehead with the glabellar nose area and the lateral forehead with the supraorbital eyebrow area for one year but poor correction nasolabial. Therefore a second grafting was performed. In addition to the augmentation we observed a possible reduction of disease activity concerning the scar-development, which had progressed further despite multimodal immunomodulating therapy.
Conclusion: Autologous fat-grafting in linear scleroderma has good results. An effect in concern of limiting the progression of the disease and reversing the fibrosis und atrophy would be a favourable outlook. Autologous fat-grafting provides a rich source of cells: adipocytes, stem cells, endothelial cells and vascular smooth muscle cells potentially contribute to the effectiveness of this treatment. Studies are necessary to define the indications and points in time of fat-transplantation in linear scleroderma.