

Percutaneous collagen induction: An effective and safe treatment for post-acne scarring in different skin phototypes (Article)

Fabbrocini, G.^a, De Vita, V.^a, Monfrecola, A.^a, De Padova, M.P.^b, Brazzini, B.^c, Teixeira, F.^c, Chu, A.^c

^a Department of Systematic Pathology, Division of Dermatology, University of Naples Federico II, Naples, Italy

^b Ospedale Privato Accreditato Nigrasoli, Division of Dermatology, Bologna, Italy

^c Department of Dermatology, Hammersmith Hospital, London, United Kingdom

[View references \(18\)](#)

Abstract

Background: Atrophic scars can complicate moderate and severe acne. There are, at present, several modalities of treatment with different results. Percutaneous collagen induction (PCI) has recently been proposed as a simple and effective therapeutic option for the management of atrophic scars. **Objective:** The aim of our study was to analyze the efficacy and safety of percutaneous collagen induction for the treatment of acne scarring in different skin phototypes. **Methods & materials:** A total of 60 patients of skin types phototype I to VI were included in the study. They were divided into three groups before beginning treatment: Group A (phototypes I to II), Group B (phototypes III to V), and Group C (phototypes VI). Each patient had three treatments at monthly intervals. The aesthetic improvement was evaluated by using a Global Aesthetic Improvement Scale (GAIS), and analyzed statistically by computerized image analysis of the patients' photographs. The differences in the GAIS scores in the different time-points of each group were found using the Wilcoxon's test for nonparametric-dependent continuous variables. Computerized image analysis of silicone replicas was used to quantify the irregularity of the surface micro-relief with Fast Fourier Transformation (FFT); average values of gray were obtained along the x- and y-axes. The calculated indexes were the integrals of areas arising from the distribution of pixels along the axes. **Results:** All patients completed the study. The Wilcoxon's test for nonparametric-dependent continuous variables showed a statistically significant ($p < 0.05$) reduction in severity grade of acne scars at T5 compared to baseline (T1). The analysis of the surface micro-relief performed on skin replicas showed a decrease in the degree of irregularity of skin texture in all three groups of patients, with an average reduction of 31% in both axes after three sessions. No short- or long-term dyschromia was observed. **Conclusion:** PCI offers a simple and safe modality to improve the appearance of acne scars without risk of dyspigmentation in patient of all skin types. © 2014 Informa Healthcare USA on behalf of Informa UK Ltd.