



SEARCH All Content
 Publication Titles

[Journal of the European Academy of Dermatology and Venereology](#)

e-mail print

[Advanced Search](#)
[CrossRef / Google Search](#)
[Acronym Finder](#)

[What is RSS?](#)

Volume 22, Issue 4, Pages 513-514

Published Online: 12 Jul 2007



[Save Article to My Profile](#) [Download Citation](#)

< [Previous Article](#) | [Next Article](#) >

[Abstract](#) | [References](#) | Full Text: [HTML](#) , [PDF](#) (113k)

[View Full Width](#)

LETTERS TO THE EDITOR

The treatment of burn scar–induced contracture with the pinhole method and collagen induction therapy: a case report

SB Cho†, SJ Lee†, JM Kang†, YK Kim†, TY Kim‡, DH Kim*‡

†Yonsei Star Skin and Laser Clinic, ‡Department of Dermatology, Pochon CHA University College of Medicine, Gyeong Gi-Do, South Korea,

*Corresponding author, Department of Dermatology, Pochon CHA University College of Medicine, Bundang-Gu Yatap-Dong 351 Bundang CHA General Hospital, Seongnam-Si, GyeongGi-do 463–712, Korea, tel. +82 31 780 5240; fax +82 31 780 5247; E-mail: terios92@hanmail.net

DOI: 10.1111/j.1468-3083.2007.02375.x

ABSTRACT



No Abstract

DIGITAL OBJECT IDENTIFIER (DOI)

10.1111/j.1468-3083.2007.02375.x [About DOI](#)

ARTICLE TEXT

Editor

We would like to report a case of burn scar treated by a combination of the pinhole method using a carbon dioxide laser and collagen induction therapy (CIT) using a micro-needle therapy system (Dermaroller®, Horst Liebel, Germany).

A 50-year-old Korean woman presented with a burn scar on the right side of her lower chin. The burn scar was made at the age of 1 year, and it pulled down the right side of the patient's lower lip ([figs 1a and 2a](#)). She had no specific medical diseases and no treatment history for the scar except for the emergency treatment immediately after the burn injury. The irregularly surfaced burn scar extended from her right earlobe to her chin and was approximately 3 cm × 15 cm in size. After local anaesthesia with 1% lidocaine, multiple pinholes were made at intervals of 5 mm using a carbon dioxide laser. Soon after, a Dermaroller® was rolled thrice over the entire surface of the burn scar with appropriate overlap. After five sessions of a combined treatment of the pinhole method and CIT at 4-week intervals, the lesion showed a relaxation of the contracture and an improvement in texture and

colour (figs 1b and 2b). The patient was satisfied with the results and reported no side-effects.

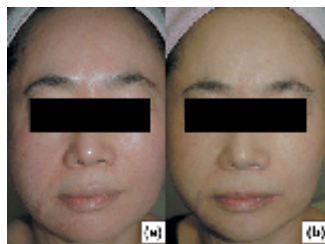


fig. 1 (a) Burn scar on the right side of lower chin pulling down the right side of the patient's lip. (b) Improvement of the distorted lip after five treatment sessions of the pinhole method combined with CIT.
[Normal View]

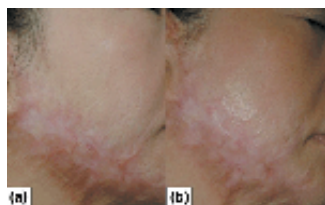


fig. 2 (a and b) Side profiles of the same patient.
[Normal View]

Many patients with burn injuries have various complications and emotional problems due to scarring. Although there have been many treatments for burn scars, such as excision, skin grafts, laser abrasion, and the use of silicone products, many patients have not been satisfied with the results.¹ Previous reports suggested that dermabrasion with simple sandpaper or a needle penetrating into the papillary dermis can result in healing without a scar, and the regenerated collagen bundles have a tendency toward unidirectional collagen fibre deposition parallel to the epidermal surface.^{2,3}

The pinhole method involves making multiple small holes like sweat pores that penetrate from the epidermis to the deeper dermis using a carbon dioxide laser at intervals of 2 to 5 mm. This method induces regeneration and realignment of irregular and thick collagen bundles through physical breakage and thermal damage.¹ Puncturing a scar with a carbon dioxide laser, compared with a needle, is more convenient and results in less post-treatment bleeding and oozing. With the pinhole method, a carbon dioxide laser can make deeper holes than needling, which is especially useful in the treatment of hard and thick scars.¹ However, when it is applied too closely to a thickened burn scar, it can cause some side-effects (i.e. delayed wound healing or ulceration of the treated area).

With CIT using a Dermaroller®, multiple punctures of the scar are made with a drum-shaped device that has fine protruding needles.⁴ Although this approach lacks thermal stimulation, it can produce closer holes than the pinhole method using a carbon dioxide laser. We assumed that a combination of the pinhole method and CIT could produce both appropriate thermal damage and fine puncturing of the burn scar.

In conclusion, we suggest that treatment of burn scars by the pinhole method combined with CIT is easy and inexpensive to perform and will result in a greater improvement in the scar than either method alone.

References



- 1 Whang SW, Lee KY, Cho SB *et al* . Burn scars treated by pinhole method using a carbon dioxide laser. *J Dermatol* 2006; **33**: 869–872. [Links](#)
- 2 Roxo RF, Sarmiento DF, Kawalek AZ, Spencer JM. Successful treatment of a hypochromic scar with manual dermabrasion: case report. *Dermatol Surg* 2003; **29**: 189–191. [Links](#)
- 3 Langdon RC. Regarding dermabrasion for acne scars. *Dermatol Surg* 1999; **25**: 919–920. [Links](#)
- 4 Fernandes D. Percutaneous collagen induction: an alternative to laser resurfacing. *Aesthetic Surg J* 2002; **22**: 315–317. [Links](#)