

Subcision and microneedling therapy: report of two cases

Subcisão e microagulhamento: relato de dois casos

DOI: <http://dx.doi.org/10.5935/scd1984-8773.20168409>

ABSTRACT

Inflammatory acne lesions may cause unaesthetic scars. Several treatments have been described to ameliorate its appearance. Will be described the treatment with subcision in two patients with acne and dystrophic crateriform facial scars. The female patient performed Microneedling in the same session of subcision. There was good clinical outcome in the treated areas of both patients after three monthly sessions.

Keywords: cicatrix; acne vulgaris; case reports

RESUMO

As lesões inflamatórias da acne podem resultar em cicatrizes permanentes, e vários tratamentos são propostos para reduzir sua aparência. Relatam-se os casos de dois pacientes, um homem e uma mulher com cicatrizes de acne distróficas, distensíveis retráteis e crateriformes na face, em que se optou pelo uso da subcisão nas áreas cicatriciais. Na paciente do sexo feminino foi associado na mesma sessão o microagulhamento. Houve bom resultado clínico nas áreas tratadas dos dois pacientes após três sessões mensais.

Palavras-chave: cicatriz; acne vulgar; relatos de casos

INTRODUCTION

Acne is a condition that affects more than 80% of the adolescent population in different degrees^{1,2} and 12–51% of adults aged 20 to 49 years.^{3,4} These inflammatory lesions might lead to permanent scarring, which usually occur early and can affect roughly 95% of patients, causing psychological stress for many individuals.^{3,5} They are linked to the acne's severity and the delay in treatment.¹

Acne scars can be classified into: elevated (subtypes: hypertrophic, keloid, papular and bridges), dystrophic and depressed (subtypes: distensible and non-distensible). The distensible subtype is sub-classified into: retractable and undulated; while the non-distensible subtype can be sub-classified into: superficial, medium, crateriform, deep (icepicks) and tunnels⁶

Several treatments are proposed for reducing the appearance of scars and should be individualized.¹ These therapies include: dermabrasion,¹ subcision⁷, microneedling⁸, punch techniques,³ chemical peels,³ fat grafting,³ hyaluronic acid based cutaneous filling,⁴ and ablative lasers,² such as 10,600nm CO₂.

This paper describes two cases of patients with acne scars: one who underwent subcision and microneedling and other,

Case Reports

Authors:

Heliana Freitas de Oliveira Góes¹
Anangélica Rodrigues Virgens¹
Alzinira Herênio Neta¹
Caroline Coronado Cha²
Régia Celli Patricia de Sica³
Ana Paula Gomes Meski⁴

¹ Dermatologist Physician. Cosmiatry and Laser Specialist, Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (HCFMUSP) – São Paulo (SP), Brazil.

² Dermatologist Physician. Cosmiatry and Laser Assistant Physician, HCFMUSP.

³ Dermatologist Physician. Head of the Cosmiatry and Laser Ambulatory, HCFMUSP - São Paulo (SP), Brazil.

⁴ Dermatologist Physician. Coordinator, Cosmiatry Ambulatory, HCFMUSP.

Correspondence:

Heliana Freitas de Oliveira Góes
R. Itararé, 177, apt.96 - Bela Vista
cep 01308-030 - São Paulo (SP),
Brazil
e-mail: heliana_g@yahoo.com.br

Received on: 06/08/2016

Approved on: 12/11/2016

This study was performed at the Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (HCFMUSP) – São Paulo (SP), Brazil.

Financial support: None

Conflict of interests: None

who only underwent subcision.

CASE REPORT

1. Thirty-seven year-old female patient with multiple acne scars (dystrophic, distensible retractable and crateriform) located bilaterally in the temporal, malar and mandibular regions (Figure 1).

2. Thirty-five year-old male patient with multiple acne scars (dystrophic, distensible retractable and crateriform) located bilaterally in the forehead and temporas, and in the malar, mandibular and mentonian regions (Figure 2).

METHODS

The subcision technique⁹ was used in both patients, where a sterile aspiration needle (1.20 X 25mm, 18G) is inserted through transepidermal route, up until the dermis' and subcutaneous tissue's depth, producing linear paths in different directions in the areas with distensible retractable and crateriform scars, following regional blocks and local injection with 2% lidocaine and 1:100,000 epinephrine diluted in 0.9% saline solution (1:1).

In the female patient, microneedling with 1.5mm needles (DermaRoller System®, Ekai Electronic Technology co. Ltd, Guangzhou, China) was used in the whole face after the subcision. After the procedure, the patients were instructed to use healing cream (Cicaplast Baume B5® La Roche Posay, Rio de Janeiro, Brazil) once a day for seven days and sunscreen.

RESULTS

Three days after the procedure, the 2 patients showed good recovery. After 3 monthly sessions good outcomes could be observed in the treated areas, with elevation of the cars and satisfactory clinical response after each session, as well as in the first month after the three sessions (Figures 3 and 4). The patient who underwent the 2 procedures had a better response.

DISCUSSION

Microneedling corresponds to the application of a device with hundreds of needles, which inflict thousands of micro holes in the skin, at the papillary dermis' level.^{1,8} The ideal scars to be treated with this method are the crateriform and deep types.¹⁰ During the procedure, the device is usually rolled up continu-



FIGURE 1:
Dystrophic and crateriform acne scars, Patient 1



FIGURE 2:
Dystrophic and crateriform acne scars, Patient 2



FIGURE 3:
One month after three monthly sessions of subcision and microneedling, Patient 1



FIGURE 4:
One month after three subcision sessions, Patient 2

ously until bleeding takes place, triggering a complex cascade of release of growth factors that results in the production of collagen. Neocollagenesis usually starts after six weeks, but the full effect may take at least three months to manifest. In addition, as the deposition of this new collagen occurs slowly, the skin's texture will continue to improve over the following 12 months.^{1,3,8}

Regarding the subcision technique – which was introduced in 1995 – it consists of a procedure in which a needle (in general hypodermic, 1.20 X 40mm) is inserted under the skin at the subcutaneous plane, being passed in multiple directions, aimed at breaking the fibrous components located beneath the scar. It is more effectively used in distensible retractable scars, and less efficacious in the treatment of crateriform and deep, icepick type scars.^{1,7} This technique causes the rupture of under-

lying fibrotic bands, triggering an inflammatory response after the bleeding, which culminates in the production of underlying collagen with elevation and improvement of the scar.^{7,9} Although subcision can be performed isolatedly, clinical results are usually better when there is association with other procedures, as was the case of the patient studied in this paper, when there was association of microneedling and subcision.

CONCLUSIONS

Subcision and microneedling have advantages – such as shorter recovery time (2 to 3 days), safety in all phototypes, decreased post-inflammatory hyperpigmentation risk and cost effectiveness – when compared to other techniques such as laser therapy, chemical peels or dermabrasion. ●

REFERENCES

1. Gozali MV, Zhou B. Effective treatments of atrophic acne scars. *J Clin Aesthet Dermatol*. 2015;8(5):33-40.
2. Petrov A, Pljakovska V. Fractional carbon dioxide laser in treatment of acne scars. *Maced J Med Sci*. 2016;4(1):38-42.
3. Hession MT, Graber EM. Atrophic acne scarring: a review of treatment options. *J Clin Aesthet Dermatol*. 2015;8(1):50-8.
4. Wollina U, Goldman A. Fillers for the improvement in acne scars. *Clin Cosmet Investig Dermatol*. 2015;8:493-9.
5. Al-Hammadi A, Al-Ismaily A, Al-Ali S, Ramadurai R, Jain R, McKinley-Grant L, Mughal TI. Topical, biological and clinical challenges in the management of patients with acne vulgaris. *Sultan Qaboos Univ Med J*. 2016;16(2):e152-e160.
6. Kadunc BV, Trindade de Almeida AR. Surgical treatment of facial acne scars based on morphologic classification: a Brazilian experience. *Dermatol Surg*. 2003;29(12): 1200-9.
7. Nilforoushzadeh M, Lotfi E, Nickkholgh E, Salehi B, Shokrani M. Can Subcision with the Cannula be an Acceptable Alternative Method in Treatment of Acne Scars? *Med Arch*. 2015;69(6):384-6.
8. El-Domyati M, Barakat M, Awad S, Medhat W, El-Fakahany H, Farag H. Microneedling Therapy for Atrophic Acne Scars: An Objective Evaluation. *J Clin Aesthet Dermatol*. 2015;8(7):36-42.
9. Barikbin B, Akbari Z, Yousefi M, Dowlati Y. Blunt Blade Subcision: An Evolution in the Treatment of Atrophic Acne Scars. *Dermatol Surg*. 2016. Epub 2016 Feb 15.
10. Fabbrocini G, Fardella N, Monfrecola A, Proietti I, Innocenzi D. Acne scarring treatment using skin needling. *Clin Exp Dermatol*. 2009;34(8):874-9.