

# Combined vacuum therapy and superficial micropuncture in the treatment of white striae: A case series

**Airton Barbalho Rodrigues**

*AB Clínica de Medicina Estética, Castellón de la Plana, Spain*

**Corresponding author:** Airton Barbalho Rodrigues, E-mail: [airtonb.contato@gmail.com](mailto:airtonb.contato@gmail.com)

Sir,

Striae distensae are common dermal lesions resulting from mechanical stretching, hormonal influences, and connective tissue alterations [1-3]. White striae (striae distensae alba) represent a chronic stage characterized by dermal atrophy, disruption of collagen and elastic fibers, hypopigmentation, and reduced local vascularization [2,3].

Several therapeutic modalities have been proposed to stimulate dermal remodeling in striae, including lasers, radiofrequency, and microneedling [4-6]. However, outcomes remain variable, especially in long-standing white striae [1,4].

Vacuum therapy is applied using low to moderate negative pressure, adjusted according to the tissue response and patient tolerance, promoting transient tissue deformation and increased microcirculation [7].

Following vacuum stimulation, superficial micropuncture is performed at the epidermal–dermal interface using a dermatograph equipped with a single-tip needle [5,6].



**Figure 1:** Immediate localized inflammatory response observed after the application of the combined vacuum therapy and superficial micropuncture technique in the gluteal region, characterized by transient hyperemia and capillary micro-extravasation.

An immediate localized inflammatory response following the combined procedure, characterized by transient hyperemia, is illustrated in Fig. 1 [7].

Mechanical negative pressure has been associated with increased cutaneous microcirculation and stimulation of fibroblast activity, contributing to collagen synthesis and dermal remodeling [7] (Figs. 2 – 4).

Superficial micropuncture induces controlled micro-injuries that activate a wound-healing cascade [5,6].

**How to cite this article:** Barbalho Rodrigues A. Combined vacuum therapy and superficial micropuncture in the treatment of white striae: A case series. Our Dermatol Online. 2026;17(2):266-267.

**Submission:** 14.12.2025; **Acceptance:** 01.02.2026

**DOI:** 10.7241/ourd.20262.26



**Figure 2:** Female patient with hypopigmented atrophic striae in the gluteal region before treatment and after the completion of the combined vacuum therapy and superficial micropuncture protocol, showing improved texture uniformity and partial repigmentation.



**Figure 3:** Female patient with post-pregnancy white atrophic striae in the abdominal region before treatment and after the completion of the combined vacuum therapy and superficial micropuncture protocol, demonstrating improved tone uniformity and dermal texture.



**Figure 4:** Male patient with horizontal white striae developed during puberty in the dorsal region before treatment and after the completion of the combined vacuum therapy and superficial micropuncture protocol, showing reduced visibility of the striae and improved surface homogeneity.

## REFERENCES

1. Elsaie ML. Striae distensae: A review and evidence-based evaluation of treatment options. *J Cosmet Dermatol.* 2009;8: 293-303.
2. Watson RE, Parry EJ, Humphries JD, Jones CJ, Polson DW, Kielty CM, et al. Fibrillin microfibrils are reduced in skin exhibiting striae distensae. *Br J Dermatol.* 1998;138:931-7.
3. Ud-Din S, Bayat A. New insights on striae distensae. *J Eur Acad Dermatol Venereol.* 2013;27:679-89.
4. Alexiades-Armenakas M. Laser and light-based treatments of striae distensae. *J Drugs Dermatol.* 2009;8:1023-5.
5. Fernandes D. Minimally invasive percutaneous collagen induction. *Oral Maxillofac Surg Clin North Am.* 2005;17:51-63.
6. Lima EV, Lima MM, Takano D. Microneedling in facial recalcitrant melasma. *An Bras Dermatol.* 2015;90:919-21.
7. Atiyeh BS, El Khatib AM, Dibo SA. Pressure and vacuum-assisted therapies in dermatology and wound healing. *Ann Plast Surg.* 2013;70:241-7.

Copyright by Airton Barbalho Rodrigues. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

**Source of Support:** This article has no funding source.

**Conflict of Interest:** The authors have no conflict of interest to declare.