

# Herbal Blend for Wound Healing: Development and Evaluation



Fabíola Ferreira da Silva Didier\*<sup>1</sup>; Geovani Cleyson dos Santos<sup>1</sup>; Fiorita Gonzales Lopes Mundim<sup>1</sup>; Rodrigo Machado Pereira<sup>1</sup>; Valter Henrique Marinho dos Santos<sup>1</sup>

<sup>1</sup>Universidade do Vale do Sapucaí (UNIVÁS), Pouso Alegre, Minas Gerais, Brazil.

**Introduction:** Cutaneous lesions represent a frequent challenge in clinical practice, especially in patients with factors that impair tissue regeneration. Phytotherapy emerges as a promising alternative, with Aloe vera and Calendula officinalis being widely recognized species for their healing properties.

**Objective:** To develop and evaluate a topical herbal formulation (blend) containing Aloe vera and Calendula officinalis, both species recognized for their anti-inflammatory, antioxidant, and healing properties..

**Methods:** A total of 40 male Wistar rats were randomized into two groups: a control group (gel without extract) and a treatment group (gel with Aloe vera and Calendula officinalis blend). Full-thickness excisional wounds (16 cm<sup>2</sup>) were surgically induced and treated topically for 28 days. Wound area retraction was monitored on days 9, 16, 23, and 30. Histological analysis of the wound sites was performed to assess tissue architecture, presence of fibroblasts, collagen deposition, neovascularization, and inflammatory cell infiltration.

**Results:** Both groups showed progressive wound retraction throughout the treatment period. However, a statistically significant difference was observed on day 30 ( $p < 0.1$ ), with the treatment group presenting greater reduction in wound area compared to the control group. Histological analysis revealed tissue remodeling in both groups, characterized by varying degrees of fibroblast activity, collagen fiber organization, and reepithelialization, although no statistically significant differences were found between groups in the histological parameters analyzed.

**Conclusion:** The herbal blend formulation demonstrated therapeutic efficacy in promoting wound contraction, supporting its potential as a safe and accessible alternative for the topical treatment of cutaneous wounds. Despite the lack of statistical significance in histological parameters, the qualitative tissue findings, in combination with the macroscopic improvements, justify future studies with larger samples, extended follow-up, and molecular analysis to elucidate the mechanisms of action and optimize the formulation for clinical use..

I have no conflict of interest

ferreiradasilvadidier@gmail.com

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