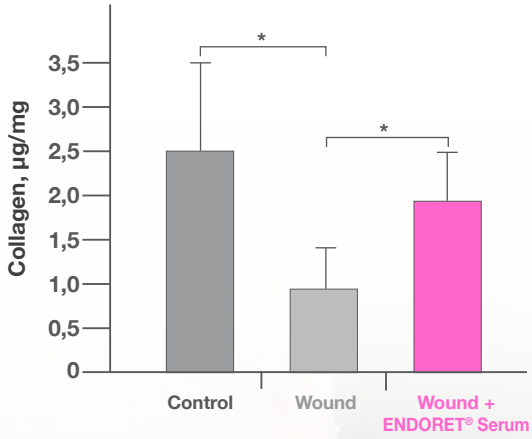
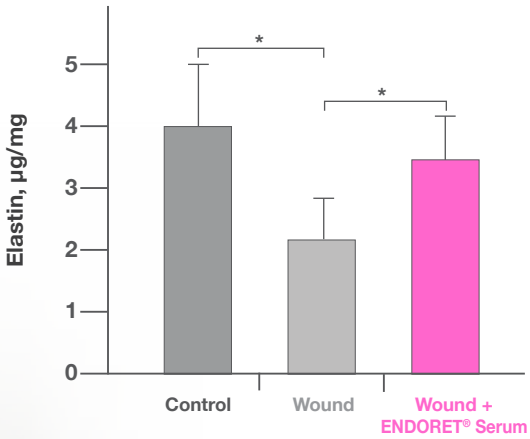
endoret® technology

CUTANEOUS WOUNDS

EFFECT OF AUTOLOGOUS ENDORET® SERUM IN WOUND HEALING

ENDORET® SERUM PROMOTES THE RE-EPITHELIALISATION OF CHRONIC WOUNDS AND ULCERS, STIMULATING TISSUE REGENERATION AND PREVENTING SCAR FORMATION





ENDORET® SERUM REDUCES INFLAMMATION AND PAIN

Anitua E, Muñoz V, Aspe L, Tierno R, García-Salvador A, Goñi-de-Cerio F, Pino A. In vitro and in vivo Effect of Platelet-Rich Plasma-Based Autologous Topical Serum on Cutaneous Wound Healing. Skin Pharmacol Physiol. 2022;35(1):51-64.

ABSTRACT

Anitua E, Muñoz V, Aspe L, Tierno R, García-Salvador A, Goñi-de-Cerio F, Pino A

In vitro and in vivo Effect of Platelet-Rich Plasma-Based Autologous Topical Serum on Cutaneous Wound Healing

INTRODUCTION

Skin injury and wound healing is an inevitable event during lifetime. However, several complications may hamper the regeneration of the cutaneous tissue and lead to a chronic profile that prolongs patient recovery. Platelet-rich plasma is rising as an effective and safe alternative to the management of wounds. However, this technology presents some limitations such as the need for repeated blood extractions and health-care interventions.

OBJECTIVE

The aim of this study was to assess the use of an endogenous and storable topical serum (ES) derived from plasma rich in growth factors promoting wound healing, and to obtain preliminary data regarding its clinical and experimental effect over ulcerated skin models and patient care.

METHODS

Human dermal fibroblast and 3D organotypic ulcerated skin models were used to assess ES over the main mechanisms of wound healing including cell migration, edge contraction, collagen synthesis, tissue damage, extracellular matrix remodeling, cell death, metabolic activity, and histomorphometry analysis. Additionally, 4 patients suffering from skin wounds were treated and clinically assessed.

RESULTS

ES promoted dermal fibroblast migration, wound edge contraction, and collagen synthesis. When topically applied, ES increased collagen and elastin deposition and reduced tissue damage. The interstitial edema, structural integrity, and cell activity were also maintained, and apoptotic levels were reduced. Patients suffering from hard-to-heal wounds of different etiologies were treated with ES, and the ulcers healed completely within few weeks with no reported adverse events.

CONCLUSIONS

This preliminary study suggests that ES might promote cutaneous wound healing and may be useful for accelerating the re-epithelization of skin ulcers.

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