

MANAGEMENT OF ALL THREE PHASES OF WOUND HEALING THROUGH THE INDUCTION OF FLUORESCENCE BIOMODULATION USING FLUORESCENCE LIGHT ENERGY

SCAPAGNINI *ET AL.*, 2019

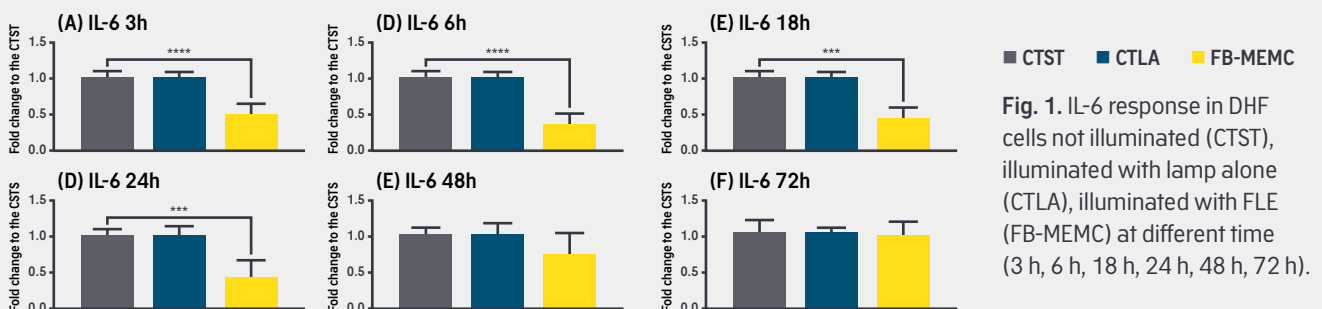
INTRODUCTION

To better understand the biological impact of induced Fluorescent Light Energy (FLE), an *in vitro* on dermal human fibroblasts (DHF) and *in vivo* on canine deep pyoderma (CDP) study has been performed.

As *in vitro* model, the primary human dermal fibroblast (DHF) cells from the skin dermal layer were used; these cells are involved in the healing response. To confirm findings from *in vitro* models, CDP was selected because it is one of the most challenging skin diseases in small animal practice.

RESULTS AND DISCUSSION

- Fibroblast exposed to FLE showed a significant decrease in IL-6 production by 130% after 24h (**Fig. 1**).



- In CDP the use of FLE plus standard of care (SOC) treatment significantly reduced time to clinical resolution compared to controls.
- Biopsies from lesional areas showed enhanced mitochondrial biogenesis in the FLE lesions versus SOC lesions, as supported by a significant increase in the number and size of mitochondria (89% and 90% respectively) (**Fig. 2**).

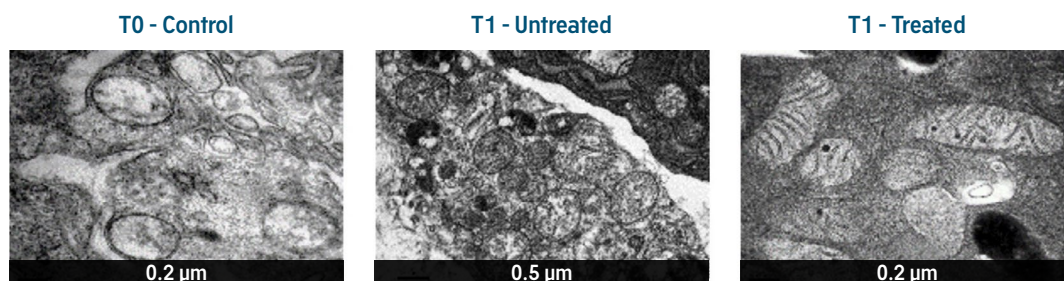


Fig. 2. TEM images comparing T0 and T1 with SOC and FLE treatments respectively.

CONCLUSIONS

In conclusion, this study indicates that FLE, already used in human health to manage acne vulgaris, rosacea, and many types of ulcers, positively impact all phases of healing through modulation of the inflammatory profile, activation of growth factors, and stimulation of collagen depositions in a physiological manner.

For more information and data, visit the original [publication](#).