

# Treatment of atrophic acne scars: Topical or intralesional plasma gel?

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## Abstract

**Background:** Atrophic post-acne scarring is considered to be a therapeutic challenge.

**Objectives:** The aim was to compare the safety and efficacy of (A) FCL combined with intradermal injection of plasma gel, (B) FCL combined with topical application of plasma gel, and (C) FCL monotherapy in the treatment of atrophic post-acne scars.

**Methods:** Thirty patients with facial atrophic post-acne scars were enrolled in this study and randomly assigned into one of three groups. All of them underwent four treatment sessions at 4-weeks intervals. They were assessed objectively by the quantitative global scarring grading system (GSGS). This system was applied at baseline, and after 1- and 6-month follow-up (FU). Subjective assessments were performed through the global esthetic improvement scale (GAIS) and level of patient satisfaction. The DLQI questionnaire was employed at the baseline and 6-month FU.

**Results:** According to the quantitative GSGS scores, the reductions in group A (68.4%) and group B (63%) scores were comparable, and both were significantly higher than that in group C (41.2%) in all steps of evaluation. At 6-month FU, both groups A and B showed further significant improvement, while group C did not. Based on the GAIS and patients' satisfaction, there were no significant differences between all groups. The reductions in DLQI scores in groups A and B were comparable; however, both were significantly higher than group C ( $P < .001$ ).

**Conclusions:** The combination of plasma gel and FCL resurfacing was noticeably outstanding in their efficacy and impact on the patients' quality of life.

## KEYWORDS

acne scarring, fractional Co2 laser, plasma gel

## 1 | INTRODUCTION

Atrophic post-acne scarring is often a permanent and unbearable sequel of acne vulgaris. It has a high prevalence, a significant impact on the quality of life, and it represents a therapeutic challenge for dermatologists.<sup>1</sup>

Fractional resurfacing lays down a matrix of energy beams to form an array of microscopic treatment zones to stimulate a

therapeutic response in the dermis.<sup>2</sup> The reservoir of spared skin allows the rapid repair of laser-induced injury.<sup>3</sup>

The use of autologous blood-derived products in the field of cosmetic dermatology and plastic surgery has been discussed at length. In particular, plasma gel (PG), has gained popularity in the treatment of chronic wounds.<sup>4</sup> Moreover, the advent of PG therapy within the past few years allowed it to compete with dermal fillers and platelet-rich plasma (PRP) in their applications.<sup>5</sup>

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