

Platelet-rich plasma versus carboxytherapy in the treatment of periorbital dark circles: A split-face study

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Abstract

Background: Periorbital hyperpigmentation is a recurrent problem in dermatologic clinics that affect the patients' quality of life and their psychological status. Platelet-rich plasma (PRP) may serve as a source of different growth factors which may reduce the pigmentation in this problem. Carboxytherapy is carbon dioxide infusion into human tissue for therapeutic purposes.

Objective: To evaluate and compare the clinical efficacy of PRP and carboxytherapy in the treatment of periorbital dark circles (PODC). Histopathological evaluation was also done.

Patients and Methods: Split-face study of 23 patients with PODC treated with PRP at the right side and carboxytherapy at the left side. Patients received four sessions; one session/week. Final follow-up evaluation was done 3 months after the last session by clinical and histopathological assessment.

Results: PRP showed significant better response ($p = 0.002$), shorter downtime, and tolerable side effects than caboxytherapy. Reduction in area percent of melanin after PRP injections showed 46.6% improvement, while after carboxytherapy, it showed only 14.3% improvement.

Conclusion: The present study showed that PRP is more effective and tolerable than caboxytherapy in the treatment of PODC.