

**COMPARATIVE STUDY BETWEEN PLATELET RICH
PLASMA (PRP) & CARBOXYTHERAPY IN
TREATMENT OF PERIORBITAL DARK CIRCLES**

Thesis

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ABSTRACT

Background: Dark circles are a color difference between the palpebral skin and the remaining facial skin. Platelet-Rich Plasma (PRP) may serve as a source of different growth factors to reduce the pigmentation as in infraorbital dark circle and melasma. Carboxytherapy is carbon dioxide infusion into human tissue for therapeutic purposes.

Aim of the work: This study aimed to compare the clinical efficacy of PRP and carboxytherapy in the treatment of periorbital dark circles (PODC).

Patient and Methods: Split-face study with 23 patients with PODC treated with PRP at the right side and carboxytherapy at the left side. All cases were assessed by photos before and after treatment, patient, physician satisfaction scoring and area of percentage of melanin in skin biopsies.

Results: There was statistically significant difference with p -value < 0.05 between PRP and carboxytherapy regarding patient and physician satisfaction. Most results reported good physician and patient satisfaction about PRP and fair physician and patient satisfaction about carboxytherapy treatment. The area percent of melanin in biopsies before treatment has a median which was 11.1, while in biopsies after PRP injections had lowered to 5.9 which indicated 46.6% improvement. While after carboxytherapy, the median of melanin area percent in biopsies was 9.49; which indicated 14.3% improvement.

Conclusion: PRP is considered a moderately effective treatment for PODC. While, carboxytherapy is considered a mildly effective. However, further studies on larger scales are required.

Keywords: Periorbital dark circles -Platelet-Rich Plasma- Carboxytherapy.