

Thesis Title	The Efficacy of the Combination of Intense Pulsed Light Therapy and Platelet-rich Plasma with Platelet-rich Plasma Alone for Facial Rejuvenation
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ABSTRACT

Background: Skin aging is a multifactorial process characterized by collagen degradation, reduced elasticity, wrinkle formation, and impaired skin barrier function due to intrinsic aging and extrinsic factors such as ultraviolet exposure. Non-invasive facial rejuvenation techniques have gained popularity, with platelet-rich plasma (PRP) promoting tissue regeneration through growth factors, while intense pulsed light (IPL) improves pigmentation, vascular lesions, and collagen remodeling. The synergistic potential of combining IPL with PRP may enhance overall skin rejuvenation outcomes.

Objective: To compare the clinical efficacy of combined IPL and PRP therapy versus PRP alone for facial rejuvenation, focusing on wrinkle reduction, skin viscoelasticity, trans-epidermal water loss (TEWL), overall aesthetic improvement, patient satisfaction, and adverse effects.

Methods: A randomized split-face clinical trial was conducted involving 12 healthy participants aged 25–45 years with grade 2–3 wrinkles. Participants received combined IPL + PRP treatment on one side of the face and PRP alone on the other side every four weeks for three sessions. Outcomes were evaluated at baseline and during follow-ups (weeks 4, 8, and 12) using VISIA® wrinkle analysis, Cutometer® for viscoelasticity, Tewameter® for TEWL, Global Aesthetic Improvement Scale (GAIS), patient satisfaction scores, and adverse-effect monitoring.

Results: The combination therapy demonstrated greater improvement in wrinkle scores, skin elasticity, and hydration compared with PRP alone. Participants receiving IPL + PRP showed significant collagen remodeling, improved skin tone ($p < 0.05$), and

higher satisfaction scores, while maintaining a favorable safety profile with minimal and transient adverse effects.

Conclusion: The combination of IPL and PRP is a safe and more effective approach for facial rejuvenation than PRP monotherapy. This synergistic treatment improves wrinkles, skin viscoelasticity, hydration, and patient satisfaction, supporting its use as a non-invasive, comprehensive anti-aging strategy and providing a foundation for future larger-scale studies.

Keywords: Intense Pulsed Light (IPL), Platelet-rich Plasma (PRP), Facial Rejuvenation, Skin Aging, Wrinkle Reduction

