



Efficacy of platelet rich plasma on micrografting towards epithelization process

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Objectives: Wound healing process especially for burn injury had been talked about recently. Pain burden and disability of burn injury encouraged for an effective treatment, one of the treatments includes micrografting. The application of platelet rich plasma on micrografting was able to speed up wound healing in burn injury.

Methods: This study is a clinical experimental study, post-test only control group. Nine patients with burn injury who underwent micrografting were treated in two different manners; first half of total area covered with micrografting was given platelet rich plasma, while the other half left as it is. Epithelization was measured histologically by the appearance of macrophage, fibroblast and collagen clinically and graft take.

Results: Significant increase $p < 0.05$ in histology appearance was observed. Macrophage in platelet rich plasma group was 11.222 and 4,111 in non-platelet rich plasma group. Fibroblast in platelet rich plasma group was 16,444 and 6,556 in non-platelet rich plasma group respectively; and collagen in platelet rich plasma group account for 6,778 and 1,994 in non-platelet rich plasma group. The result on clinical evaluation on the 5th and 10th days were 2.236 ($p = 0.025$) and -2.000 ($p = 0.046$) respectively. Graft take are also increasing significantly in platelet rich plasma group with 82,222 and non-platelet rich plasma group 72,778 ($p = 0.001$). The application of platelet rich plasma on micrografting demonstrated a significant difference histologically and clinically.

Conclusion: Platelet rich plasma was efficacious towards wound healing process through increasing of macrophage, fibroblast and collagen that can speed up epithelization.

Biography: Arviansyah has completed his Plastic Surgery specialization from Airlangga University Surabaya in 2014. He is now a Staff Member of Plastic Reconstructive and Aesthetic Surgery Department in Saiful Anwar General Hospital, Malang, East Java, Indonesia. Currently, he is much involved in the supervision of general surgery residents at the Faculty of Medicine- Brawijaya University in Malang-Indonesia.

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