EFFICACY OF PLATELET RICH PLASMA ON MICROGRAFTING TOWARDS EPITHELIZATION PROCCESS

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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 is able to speed up wound healing in burn injury.

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

Results: Significant increased $p<0,05$ on histology appearance; macrophage in platelet rich plasma group are 11.222 and 4,111 in non platelet rich plasma group; fibroblast in platelet rich plasma group are 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 5^{th} and 10^{th} days are -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 on histologically and clinically.

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

Keywords: *micrografting, platelet rich plasma, macrophage, fibroblast, collagen, epithelization, graft take*

Professional 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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