



MEDICAL THERAPIES AND PHARMACOLOGY

EFFECTIVENESS OF AUTOLOGOUS PLATELET RICH PLASMA THERAPY WITH TOTAL CONTACT CASTING VERSUS TOTAL CONTACT CASTING IN TREATMENT OF TROPHIC ULCER IN LEPROSY: OBSERVER BLIND, RANDOMIZED CONTROLLED TRIAL

Amrita Sil⁽¹⁾ - Supratim Saha⁽²⁾ - Srinivas Gowda⁽²⁾ - Nasiruddin Mondal⁽²⁾ - Sufiur Rahaman⁽²⁾ - Shahriar Ahmed⁽²⁾ - Sujit Debbarma⁽²⁾ - Prateekkumar Khune⁽³⁾ - Sudipta Roy⁽²⁾ - Apareshe Patra⁽²⁾ - Nilay Das⁽²⁾

Rampurhat Government Medical College, Department Of Pharmacology, Rampurhat, India⁽¹⁾ - Bankura Sammilani Medical College, Department Of Dermatology, Bankura, India⁽²⁾ - Bankura Sammilani Medical College, Department Off Dermatology, Bankura, India⁽³⁾

Introduction: Trophic ulcers secondary to leprosy pose a great stigma to the patients and are difficult-to-heal. Platelet Rich Plasma (PRP) introduces growth factors directly into wound, aids rapid healing.

Objective: To evaluate effectiveness and safety of autologous PRP therapy with total contact casting (TCC) versus TCC alone in treatment of leprosy trophic ulcers.

Materials and Methods: Observer-blind, randomized (1:1), controlled study. 118 patients were enrolled. PRP prepared by double-spin centrifugation on plasma (1600 rpm for 10 mins followed by 4000 rpm for 10 mins, buffy coat and RBCs separated after 1st spin). Activated platelet rich plasma injected intra and peri-lesionally, PRP gel applied over the ulcer bed, TCC were applied to Group A and only TCC given to Group B. Procedure repeated every two weeks for 8 weeks. Two more visits were done after completion of active treatment.

Results: 56 patients analyzed in Group A, 52 in Group B. Surface area of ulcer decreased significantly from first follow-up onwards in both the groups ($p < 0.001$). When both groups were compared, it was found that reduction in surface area of ulcer was significantly more in Group A than Group B from first follow up onwards ($p = 0.038$) which was maintained till 5th follow-up ($p < 0.001$). At the end of study $91.10 \pm 9.65\%$ surface area reduction occurred in Group A whereas $79.77 \pm 17.91\%$ in Group B ($p < 0.001$). Complete healing of the ulcer was obtained in 22 patients (39.29%) in Group A and 11 patients (21.15%) in Group B. Trophic





ulcers healed completely in paucibacillary leprosy patients more ($p < 0.001$) and in those with lower surface area of the ulcer ($p < 0.001$).

Conclusion: PRP+TCC accelerates the healing of leprosy trophic ulcers, is more effective than TCC alone. Response is better if duration and surface area of ulcer is less, patient is of pauci-bacillary spectrum, wherein it can cause complete remission.

