



## ▼ POST GRADUATES ABSTRACTS

### PG -25 : USE OF AUTOLOGOUS PLATELET RICH PLASMA IN NON HEALING ULCER

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**Background:** Ulcers form a significant proportion of cases encountered by the general surgeon on a daily basis. Even though this may seem to be a simple problem, approximately 81% of cases with non-healing extremity ulcers undergo amputation owing to faulty wound healing. Many methods have been used to treat non healing wounds and their merits and demerits well documented. Autologous Platelet-rich plasma (PRP) is a product derived from the patient's own blood through the process of gradient density centrifugation. The use of autologous Platelet-Rich Plasma in promoting wound healing has been studied for over 30 years. Despite this, PRP dressings are infrequently used by the general surgeon to treat non healing ulcers in everyday clinical practice. This study is intended to assess the feasibility of autologous PRP dressings for non-healing ulcers, in terms of efficacy, safety and as a natural alternative to other modalities of treatment including surgery.

**Materials and Methods:** Patients admitted with a diagnosis of chronic ulcer and fell under the inclusion criteria were selected for the study. Consent was obtained from the patients to be included in the study after explaining the nature of study, investigations involved. Those patients who were willing to undergo PRP dressings were included in the test group and patients who consented for conventional dressing were included in the control group. The PRP group had 50 patients, with various etiologies of chronic ulcers and were treated with autologous PRP dressings, which were applied twice weekly. The CONTROL group included 50 patients, who were treated by daily dressing which involved cleaning

the wound with normal saline, and then Povidone iodine and covering by sterile dressing. Both groups were studied for reduction in ulcer size, quality of granulation, type of discharge from wound, change in pain score, peri-lesional changes and microbiology of the wound.

**Results:** The mean ulcer size in PRP group on initial measurement was 13.66cm.sq and in CONTROL group was 13.65cm.sq. The mean reduction in ulcer size on day 7 in PRP group was 2.47cm.sq and that in CONTROL group was 0.84cm.sq; this was statistically significant with a p value of 0.006. The mean reduction in ulcer size on day 14 in PRP group was 4.84cm.sq and that in CONTROL group was 1.51cm.sq; this too was statistically significant with a p value of 0.004. The quality of granulation improved significantly in PRP group on day7 and 14 as compared to CONTROL group. This improvement was noted in all etiological sub-groups studied. There was a statistically significant reduction in discharge from wound on day 7 and day14 in PRP group compared to CONTROL. There was no statistically significant improvement in pain reduction following PRP application on day7. Significant reduction in pain score was only observed on day 14 in PRP group when compared to CONTROL.

**Conclusion:** Autologous PRP is effective in reducing ulcer area in chronic ulcers, it improves the quality of granulation tissue, it decreases discharge and pain from ulcer and can be safe alternate to conventional dressing. As an autologous product PRP does have a risk of transmissible disease. Application of PRP requires minimal training and can be performed easily by those trained in wound care.