EFFECTIVENESS OF SUCRALPHATE AND PLATELET-RICH PLASMA COMBINATIONS FOR VEGF EXPRESSION IN DIABETIC ULCER HEALING

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# **ABSTRACT**

**Background:** Diabetic ulcer is one of the most feared chronic infections due to Diabetes Mellitus because it can lead to amputation and death.

**Aim:** To prove the effectiveness of sucralfate and platelet-rich plasma (PRP) combination for Vascular Epithelial Growth Factor (VEGF) expression in diabetic ulcer healing.

**Methods:** This research was a post test only control group design of Phase I Clinical Trial. There were 20 patients with diabetic ulcers divided into two groups, namely the treated group that was given sucralfate and PRP therapy ; the control group was given standard therapy of normal saline drainage and gauze covered. Parameters were VEGF expression levels, wound area after being given therapy, and side effect from the treatment.

**Discussions:** In unpaired t-test, the mean VEGF levels was 98.18+10.96 in the treatment group and 66.69+23.79 in the control group which showed significant difference in VEGF expression levels (p=0.003). In Mann-Whitney test, mean wound area was 0.68+0.40 in the treatment group and 0.77+0.67 in the control group which showed that there was not any significant difference (p = 0.152). There were no side effects in both study group.

**Conclusions:** Combination of sucralfate and PRP can increase VEGF levels significantly in diabetic ulcer patients but did not show any difference in reducing wound area compared to standard treatment. The combination did not cause any side effects in the study subjects, as well as those using standard treatment.

**Keywords:** diabetic ulcer, platelet-rich plasma topical, side effect, sucralfate, VEGF expression, wound area