



WOUND HEALING

## EFFICACY OF TOPICAL TIMOLOL VERSUS SALINE IN CHRONIC VENOUS ULCERS- A RANDOMIZED CONTROLLED TRIAL

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**INTRODUCTION:** Chronic venous stasis ulcers, sometimes fail to heal inspite of adequate treatment. Non healing is possibly due to chronic activation of  $\alpha$ -Receptor (B2-AR) in the keratinocytes by endogenously generated catecholamines which inhibits keratinocyte migration. Blocking of B2-AR using beta blockers have been reported to promote wound healing, by promoting keratinocyte migration, angiogenesis; increased dermal fibroblast migration and epidermal differentiation. Thus topical timolol a B2-AR antagonist, has been used to promote wound healing. The purpose of this study is to demonstrate if topical timolol enhances wound healing in venous leg ulcer

**OBJECTIVE:** To compare the efficacy of topical timolol versus saline in chronic venous leg ulcers and to compare the mean reduction in ulcer area at the end of 4weeks.

**MATERIALS AND METHODS:** 20 patients with chronic venous leg ulcer were randomized into two groups. Patients in Group 1 were treated with 1 drop of 0.5% topical timolol instilled every 2 cm<sup>2</sup> of wound edge, then covered with sterile dressing every alternate days for 4 weeks. Ulcer margins were measured and ulcer area calculated every week for 4 weeks. Similar dressing and measurement was done for patients in Group 2 with saline for 4 weeks. Healing rate was assessed by the percentage of reduction of ulcer area of both groups at week 4 compared to week 0.

**RESULTS:** The mean reduction in the area of the ulcer size in timolol group was 85.51%, and the mean reduction in the area of the ulcer size in saline group was 42.74% which was statistically significant with a  $P < 0.001$  and  $t = 4.11$ .

**CONCLUSION:** Topical timolol is an easy, effective, non invasive and inexpensive therapy that can be recommended for chronic ulcer.

