

**A COMPARISON OF A CELLULAR DERMAL MATRIX
ALLOGRAFT AND PERIOSTEAL PEDICLE GRAFT COVERED
BY CORONALLY ADVANCED FLAPS IN THE TREATMENT OF
GINGIVAL RECESSION – A 9 MONTH STUDY**



By

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*Dissertation Submitted to the
Dr. N.T.R. University of Health Sciences,
Vijayawada, Andhra Pradesh*

*In partial fulfillment
of the requirements for the Degree of*

MASTER OF DENTAL SURGERY

in the speciality of

PERIODONTICS AND ORAL IMPLANTOLOGY

Under the guidance of

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(2010-2013)**



ABSTRACT

BACKGROUND:

Gingival recession is an apical shift of the gingival margin with the exposure of root surface. It presents destruction of both soft and hard tissues. The objective of this study was to clinically evaluate and compare the efficacy of periosteal pedicle graft (PPG) with that of acellular dermal matrix allograft (ADMA), using a coronally advanced flap, in terms of root coverage, clinical attachment level (CAL), width of keratinized gingiva (WKG), post-surgical discomfort levels (PSDL) and aesthetic outcome.

METHODOLOGY:

The study population consisted of 14 patients with a total of 28 gingival recession defects. The selected gingival recession sites were randomly assigned either to experimental site-A (PPG) or experimental site-B (ADMG). The clinical parameters like full mouth plaque index and gingival index, site specific plaque index and gingival index, probing depth, width of keratinized gingiva and clinical attachment level were recorded at baseline and 9 months post operatively, whereas vertical recession depth was recorded at baseline, 1 week, 1 month, 3 months, 6 months, and 9 months post operatively. Paired t test, unpaired t test, Mann-Whitney U test, Wilcoxon signed rank matched paired test were used to assess statistical significance ($p < 0.05$).

RESULTS:

Mean recession depth significantly decreased from 2.89 ± 0.40 mm presurgery to 0.25 ± 0.50 mm with PPG ($92.8\% \pm 14.25\%$ root coverage) and from 2.93 ± 0.55 mm to

0.32 \pm 0.46 mm with ADMA (89.8% \pm 14.73% root coverage) at 9 months. No statistically significant differences between the treatments were found for VRD, CAL and PD, while WKT gain was statistically significant in ADMG group. Though the PSDL scores were significantly higher in the PPG group at baseline and 1 week follow up, they were reduced to nil at 1 month follow-up. Soft tissue in the PPG group demonstrated a superior contour and texture when compared to ADMA group.

CONCLUSION:

Within the limits of the study both PPG and ADMA groups resulted in significant amount of root coverage. The PPG technique was less invasive, required minimal time and clinical manoeuvre. It resulted in superior aesthetic outcome.

KEY WORDS:

gingival recession, periosteal pedicle graft, acellular dermal matrix allograft, coronally advanced flap, aesthetics.