Comparative evaluation of microsurgery vs conventional surgical technique of gingival depigmentation on pink esthetics and patient-related outcomes: A case series.

AANCHAL SAHNI[1*], RAJINDER KUMAR SHARMa[2*], SHIKHA TEWARI[3*], RITIKA ARORA[4*]

[1] Pg Student, 2 Senior Professor and Head, [3]Senior Professor, Associate Professor[4]
Department of Periodontics, Post-graduate institute of Dental Sciences, Rohtak, Haryana

INTRODUCTION: Increased vascularization of the grafts, relatively better percentages of root coverage, a significant increase in width and thickness of keratinized tissue, an improved aesthetic outcome, and decreased patient morbidity in cases of gingival recession treated via microsurgical approach when compared with conventional techniques have been observed and well documented. Clinical outcomes and aesthetic potential of the results of gingival depigmentation using principles of microsurgery is an area of interest that still needs to be explored.

OBJECTIVES: To evaluate and compare melanin re-pigmentation using Dummett Oral Pigmentation Index (DOPI), Hedin melanin index (HMI), patient-related outcome measures (PROMs) such as post-operative pain perception/discomfort and esthetic satisfaction on a visual analog scale (VAS) and clinical parameters[1,2] at 24 hours, 1 week, 1 month, 3 months and 6 months.

METHODOLOGY: Five systemically healthy patients with gingival melanin pigmentation participated in this case series. Depigmentation was performed using a conventional approach by #15 blade through unaided vision in one segment (maxillary anteriors in case depicted below) and using keratome and magnification loupes through a microsurgical approach in the other segment in a split-mouth design.

DOPI Score	Criteria
0	Pink tissue (no clinical pigmentation)
1	Mild light brown tissue (mild clinical pigmentation)
2	Medium brown or mixed brown and pink tissue (moderate clinical pigmentation)
3	Deep brown/ blue–black tissue (heavy clinical pigmentation)

HMI Score	Criteria
0	No pigmentation
1	One or two solitary units of pigmentation in the papillary gingiva
2	>3 units of pigmen- tation in the papillary gingiva without formation of a continuous ribbon
3	More than equal to 1 short continuous ribbons of pigmentation
4	One continuous ribbon including the entire area between the canines

RESULTS: All the reported cases demonstrated significant improvement in clinical parameters at the end of 6 months follow-up ($p<0.05$). Better improvements in clinical parameters were observed in the segments treated with microsurgical technique at 24 hrs, 1 week, and 1 month. Three out of five patients reported less post-operative discomfort (at 24 hours and 1 week) after the microsurgical approach. Higher DOPI (2.1±0.7) and HMI (1.8±0.7) scores reflecting reoccurrence were observed at the end of 6 months in two cases treated with conventional technique. No difference between the treatment modalities was found in relation to overall aesthetic satisfaction of the patient.

CONCLUSION: A microsurgical approach for gingival depigmentation is associated with retaining the clinical outcomes longer than conventional approach. Post-operative pain is reported to be less using microsurgery, but aesthetic outcomes are similar.

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