

	No.	Baseline	Immediately after surgery	<i>p</i>	6 months after surgery	<i>p</i>	Shrinkage rate (%)
Tooth	10	0.30 ± 0.35	4.55 ± 0.72	0.005	3.80 ± 0.59	0.004	16.10 ± 7.71
≤35 years	6	0.17 ± 0.26	4.42 ± 0.58	0.027	3.83 ± 0.61	0.026	13.17 ± 7.92
>35 years	4	0.50 ± 0.41	4.75 ± 0.96	0.001	3.75 ± 0.65	<0.001	20.49 ± 5.56
<i>p</i>		0.15	0.51		0.84		0.15
Implant	16	0.41 ± 0.42	5.69 ± 0.68	<0.001	4.31 ± 0.54	<0.001	23.84 ± 7.76
≤35 years	7	0.57 ± 0.45	5.93 ± 0.61	0.017	4.64 ± 0.56	<0.001	21.56 ± 7.24
>35 years	9	0.28 ± 0.36	5.50 ± 0.71	0.008	4.06 ± 0.39	0.006	25.62 ± 8.10
<i>p</i>		0.17	0.22		0.03		0.32

**Conclusions:** FGG can significantly increase the KGW around both teeth and implants. FGG around implants may have a higher shrinkage rate than natural teeth, and young patients may be more likely to obtain more keratinized gingival augmentation.

#### PR542 | Peri-Implant Keratinized Mucosa Augmentation: A Case Series of Fifteen Patients With up to Five Years of Follow-Up

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**Background & Aim:** Insufficient keratinized mucosa (KM) around dental implants is associated with adverse outcomes. Despite various augmentation techniques, free gingival grafts (FGG) remain the gold standard for width and thickness enhancement. This case series describes clinical outcomes of KM augmentation using FGG in fifteen patients (51 implants) over follow-ups of up to 5 years.

**Methods:** Fifteen periodontitis-treated patients with inadequate or absent KM around implant sites received FGG for KM augmentation. Following local anaesthesia, a partial thickness flap was raised to create a recipient bed, and a graft of 1.5-2mm thickness was harvested from the palate, then sutured using periosteum and simple stitches. Clinical parameters (KM width, mucosal mobility, plaque index [PI], bleeding on probing [BoP], and probing pocket depth [PPD]) were recorded, along with patient-reported outcomes measures (PROMs) such as analgesic use and visual analog scale (VAS) satisfaction scores.

**Results:** The mean width of KM at baseline was 0.7 mm (range 0–2 mm). After the procedure, all patients presented a significant increase in KM width ( $p < 0.05$ ) being the mean values at 12 months 5.26 mm (range 4–7 mm) and 5.08 at 60 months. Mobility of the mucosal margin was not observed in none of the cases. There were no significant changes throughout the follow up period regarding the PI, BoP and PPD neither on mucosa mobility. The mean number of analgesics taken was of 6.33 pills

per patient (range 4–9 pills). Patient satisfaction was high in all cases (ranging from 9 to 10 in the VAS).

**Conclusions:** This case series suggests that FGG is a reliable method for increasing KM width and minimizing mucosal mobility around implants, leading to improved comfort and high patient satisfaction. Further studies with larger sample sizes and longer follow-up periods are recommended to validate these findings and optimize KM augmentation protocols in implant dentistry.

#### PR543 | The Effect of Vertical Level Discrepancy of Adjacent Dental Implants on Marginal Bone Loss: A Retrospective Analysis

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**Background & Aim:** The purpose of the present study was to investigate the effect of relative vertical and horizontal position of adjacent implants on peri-implant marginal bone level (MBL) alterations.

**Methods:** Electronic records of the patients at two centres were completely reviewed to identify subjects that received 2 or 3 adjacent implants at the same time. After identification of the possible eligible patients, their charts and radiographs were reviewed for conformance to the inclusion and exclusion criteria.

**Results:** 65 patients (mean age 59 ± 8.9 years), contributing 153 implants and mean follow up of 57.2 ± 0.3 months met the inclusion/exclusion criteria. The spatial relationships of adjacent implants included horizontal inter-implant distance (HID) of 3.36 ± 1.49 and vertical level discrepancy (VLD) with mean of 1.44 ± 0.86 mm. In sites with HID ≤ 3 mm, from the placement to prosthesis installation, the mean MBL for the coronal and apical implants were -1.53 ± 1.04 mm and -0.99 ± 0.93 mm, respectively ( $p = 0.04$ ). The coronal implants exhibited -1.71 ± 1.14 mm and apical implants showed -1.05 ± 0.87 mm MBL from placement to final evaluation ( $p = 0.009$ ). Among implants with HID ≤ 3 mm and VLD > 1 mm, MBL for the coronal (-2.03 ± 1.25 mm) and apical implants (-1.01 ± 0.84 mm) from implant placement to the last follow-up ( $p = 0.004$ ). Pearson correlation