

# EAODGI2023-877/PO-PIB-033 | Keratinized tissue augmentation around dental implants: A case series of five patients

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**Background:** Adequate keratinized tissue (KT) around dental implants is important on maintaining soft tissue health and in some cases can prevent peri-implant complications. The absence of KT has been associated with increased plaque accumulation, gingival inflammation, and recession, which can compromise the esthetic outcome and implant survival. Various techniques have been proposed for KT augmentation. Among them, the use of free gingival grafts is still the gold standard procedure on augmenting the KT width and thickness.

**Aim/Hypothesis:** The aim of this case series is to present the clinical outcomes of KT augmentation using a palatal epithelized soft tissue graft around dental implants in five patients.

**Material and Methods:** Five patients who had previously been treated for periodontitis and experienced insufficient or absent keratinized tissue (KT) around their dental implant sites were treated with a palatal epithelized soft tissue graft to augment the KT. After administering local anesthesia, a partial thickness flap was elevated to prepare a recipient bed for the free gingival graft, which was collected with an approximate thickness of 1.5–2 mm. The grafts were sutured with a combination of periosteum sutures and simple stitches. Clinical parameters, including the width of the KT, mobility of the mucosa, plaque index (PI), bleeding on probing (BoP), and probing pocket depth (PPD), were recorded using a UNC-15 periodontal probe. Patient-related outcomes (PROMs), such as the number of analgesic pills taken (paracetamol 1 g) and patient satisfaction (visual analog scale), were assessed.

**Results:** The mean width of KT at baseline was 0.8 mm (range 0–1.5 mm). After the procedure, all patients showed a significant increase in KT width ( $p < 0.05$ ) being the mean values at 12 months 5.2 mm (range 4–6 mm). There were no significative changes throughout the follow up period regarding the PI, BoP and PPD. The mean number of analgesics taken was of 5.8 pills per patient (range 4–7 pills). Patient satisfaction was high in all cases.

**Conclusion and Clinical Implications:** This case series suggests that KT augmentation using a free gingival grafts is a predictable and effective method for increasing KT width around dental implants. The procedure led to improved comfort and as well as high patient satisfaction. Further studies with larger sample sizes and longer follow-up periods are needed to confirm these findings and establish optimal guidelines for KT augmentation in implant dentistry.

**Disclosure of Interest:** None Declared.

**Keywords:** Clinical studies/trials, Dental implants

# EAODGI2023-150/PO-PIB-034 | Retrospective evaluation on complications of ceramic-reinforced PEEK abutments in fixed restorations

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**Background:** An implant abutment is subject to microbiological and micromechanical challenges in addition to esthetic requirements. While titanium is the most commonly used material, zirconia is preferred in the esthetic zone. However, neither of the two materials fulfils all the aforementioned requirements. BioHPP, a ceramic-reinforced high-performance polymer of polyetheretherketones (PEEK), is tooth-coloured and has the unique advantage of a bone-like elastic modulus. It could be a good alternative.

**Aim/Hypothesis:** Investigate the prevalence of the complication rate of BioHPP after a minimum of six months.

Compare the oral health-related quality of life (HRQoL) of patients with ceramic-reinforced PEEK with reference values from literature.

**Material and Methods:** A retrospective cross-sectional study evaluated complications occurring at least six months after placement of BioHPP abutments. The clinical parameters investigated include Plaque Index, Gingival Index, and their correlation. Discoloration, damage to the abutment and superstructure including the influence on craniomandibular disorders (CMD) were also evaluated. In the line with a split-mouth study, all other in situ dental materials that had cervical mucosal contact were examined.

Prior to diagnosis, the subjects completed a questionnaire (OHIP-g14) to determine the patient-reported oral health-related quality of life (HRQoL).

**Results:** A total of 78 BioHPP abutments were examined and evaluated in 50 subjects. The complication rate was 12%. Besides one discoloration, five subjects with one BioHPP abutment each, showed a Gingival Index with a measured value of 2 after an average oral retention time of 28 months. This corresponds to mucositis. For the Gingival Index, significant results were obtained in the comparison between BioHPP and natural teeth and with composite. The Plaque Index showed significant results compared to natural teeth and amalgam. Comparisons to the other restorative materials showed no significance. All other examination points were negative. This means that there was no CMD, no repair or damage to the abutments and no damage to the superstructure. The results of the HRQoL from the questionnaire showed a high level of patient-reported satisfaction in relation to the BioHPP abutments. This was better than the values of the referenced study of John et al., 2004.

**Conclusion and Clinical Implications:** No disadvantages of implant-retained restorations on BioHPP abutments were found for the dental parameters investigated. Overall, the results for BioHPP show comparable values to those for the control materials. The Gingival Index and discoloration alone resulted in a complication rate of 12%. The Plaque Index was significantly lower for the BioHPP abutments than for the natural teeth. Patient satisfaction