

## Poster Discussions

### POSTER DISCUSSION|PATHOGENESIS OF PERIODONTITIS

#### PD001: Periodontal status and health behaviour among adults in Lithuania

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**Background & Aim:** There is a scarcity of data on periodontal conditions among adult Lithuanians. The aim of this research was to identify the periodontal status and several potential determinants of individuals in Lithuania, and to compare patients' self-reported oral hygiene to the findings of a clinical periodontal examination.

**Methods:** A stratified random sample included a total of 1404 individuals aged 35–74 years old, their mean (sd) age was 54.9 (11.9) years. Prior to the dental exam appointment, a questionnaire about sociodemographic characteristics, behaviours and different aspects of oral self-care was administered. Clinical exam tested bleeding on probing (BOP) and periodontal probing depth (PPD). The descriptive statistics, independent sample t-test and multivariable linear regression were used to analyse the data.

**Results:** 15.6% of individuals were periodontally healthy (PPD <4 mm, BOP <10%). The mean number (sd) of 4–5 mm periodontal pockets was 24.1 (23.3), and of 6+ mm pockets - 7.7 (15.2), the mean ratio of bleeding on probing was 65.0%. Significant determinants for PPD 4–5 mm (Adj R<sup>2</sup> = 0.228; p < 0.001) were older age (p = 0.001), education (p = 0.001), smoking frequency (p = 0.002), self-perceived gingiva health (p = 0.002), flossing (p = 0.001) and use of interdental brush (p = 0.037); for PPD +6 mm (Adj R<sup>2</sup> = 0.160, p < 0.001): gender (p = 0.002, age (p = 0.001), self-perceived gingiva health (p = 0.024), flossing (p = 0.011); for BOP (Adj R<sup>2</sup> = 0.154, p < 0.001): self-perceived gingiva health (p = 0.001), flossing (p = 0.001) and use of interdental brush (p = 0.002). Participants with reported poor oral hygiene habits and self-perceived gingiva health

had a higher proportion of sextants with moderate or deep periodontal pockets.

**Conclusions:** In Lithuania, periodontal health was poor, with 65.0% of population having gingivitis and 84.0% having at least one deep periodontal pocket. Periodontal conditions were associated with sociodemographic characteristics, behaviours and self-reported oral health.

#### PD002: Expression of tight junction proteins in smokers and non-smokers with generalized stage III periodontitis

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**Background & Aim:** The epithelial cells of the periodontium are connected by tight junctions that are composed of transmembrane and cytoplasmic scaffolding proteins. Transmembrane tight junction proteins at the membrane of the cell consist of occludin, claudins, junctional adhesion molecules, and tricellulin. Cytoplasmic scaffolding proteins, like zonula occludens (ZO), provide a direct link between transmembrane tight junction proteins and the intracellular cytoskeleton. Tricellulin, a protein localized at the tricellular contact sites of epithelial cells is involved in the formation of tight junctions in various epithelial barriers. However, little is known about its expression in the periodontal epithelial cells. The aim of this study is evaluating the gingival crevicular fluid (GCF) levels of tight junction proteins (ZO-1, tricellulin, occludin), and TNF- $\alpha$  in periodontitis and their alteration due to smoking.

**Methods:** The study consisted of four groups: healthy individuals without smoking (C; n = 31), generalized Stage III periodontitis without smoking (P; n = 28), healthy individuals with smoking (CS; n = 18), generalized Stage III periodontitis with smoking (PS; n = 18). Clinical periodontal parameters (probing pocket depth (PPD), bleeding on probing (BOP), clinical attachment loss (CAL)) were recorded. ZO-1, occludin, tricellulin and TNF- $\alpha$  in GCF were analysed by enzyme-linked immunosorbent assay (ELISA).

**Background & Aim:** Periodontally-affected molars may exhibit deepening molar furcation defects, which can increase the risks of tooth mobility and loss and exacerbate the functional and psychological impact on patients. Traditionally, class II furcation defects are treated via OFD alone or GTR using non-autogenous membranes. However, using the patient's own connective tissue (CT) has been suggested as a barrier membrane, given the graft's potentially higher biological and individual acceptability. The aim is to appraise the available evidence on the clinical effectiveness of using CT/periosteal graft as a barrier membrane to surgically manage class II molar furcation defects, as an alternative to OFD alone or conventional GTR utilizing resorbable or non-resorbable barrier membrane.

**Methods:** The review protocol was formulated using the PRISMA guidelines. Electronic literature search was performed using three databases: Dentistry & Oral Sciences Source, MEDLINE & ProQuest Central. RCTs were selected using a pre-determined, strict inclusion and exclusion criteria. Selected studies assessed one of these outcomes: horizontal furcation depth (clinical or intra-surgical), and clinical attachment level (CAL) changes, over six months duration.

**Results:** Six RCTs were eligible for this review. CTG approach was compared to: OFD alone in 4 of the studies, and to conventional GTR in 3 of the studies. CTG approach showed greater mean H-BDD reduction (1 mm), H-PPD reduction and vertical CAL gain (0.3-2 mm), in comparison to OFD alone. Contrastingly, similar clinical outcomes were achieved with the CTG approach as compared to conventional GTR. Overall, the available studies were heterogeneous.

**Conclusions:** The CTG approach shows no clinical improvements in comparison to conventional GTR with non-autogenous membrane, although better outcomes are achieved in comparison to OFD alone. The available evidence, due to poor high heterogeneity and poor methodological quality, prohibits this review from withdrawing firm conclusions. Long-term prospective RCTs with superior methodological quality are thus needed.

### PD139: The use of concentrated growth factor (CGF) in periodontal osseous surgery and periodontal plastic surgery: A systematic review

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**Background & Aim:** Autologous platelet concentrate (APC) have been extensively studied in vitro and in vivo over the last several decades due to their biocompatibility and beneficial for possible regeneration. Therefore, we aim to evaluate the use of concentrated growth factor (CGF) in periodontal osseous surgery and periodontal plastic surgery.

**Methods:** PubMed, Scopus and Web of Science were searched for relevant studies from inception up to September 2021. Randomized controlled trial (RCT), non-randomized controlled trial, retrospective and prospective cohort studies were included with no limitation on language and follow up period.

**Results:** From 826 studies identified and screened from the database search, a total of seven studies were included. Two RCTs of intrabony defect found that the adjunctive use of CGF and CGF + bovine porous bone mineral (BPBM) showed significant improvement in pocket depth reduction and clinical attachment level gain. However, only one RCT showed that CGF + BPBM was more effective than BPBM alone. Similarly, favourable clinical results reported in CGF + guided tissue regeneration (GTR) compared to GTR alone in one retrospective cohort studies. Comparative evaluation of CGF and connective tissue graft (CTG) in management of gingival recession demonstrated significant complete root coverage (CRC) and median root coverage in favour for CTG group in tunnel technique and coronally advanced flap (CAF), respectively. The use of CGF + CAF showed significant increase in width of keratinised gingiva and gingival thickness. In papilla regeneration of multiple adjacent papillary losses, the papillary area revealed statistically significant differences for CGF group at 12 months compared to baseline and CGF supported three-dimensional structure of regenerated papilla throughout one year.

**Conclusions:** CGF may have beneficial effect on clinical improvement of intrabony defects. Whereas CTG provide superior outcome compared to CGF in root coverage. Further studies with appropriate study design and standardized defect characteristic are needed.

### POSTER DISCUSSION|PREVENTION AND SUPPORTIVE PERIODONTAL CARE

#### PD140: Continuous vs. intermittent maintenance: A 10 year clinical review

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**Background & Aim:** The purpose of this study was to determine the results of 10 years of periodontal treatment in correlation with the regularity of patients' visits in the phase of supportive treatment.

**Methods:** The study examined patients with adult periodontitis who underwent active and supportive periodontal treatment, and have undergone a full-mouth radiographic examination before and 10 years after the initial exam. Tooth loss, probing pocket depth change and mean alveolar bone loss in the course of 10 years were evaluated together with the regularity of maintenance visits after the