

EuroPerio9 press release

Healthy diet significantly reduces gingivitis

Eating more fruit, vegetables, Omega 3 and low carb food reduces gum inflammation

Amsterdam, the Netherlands, 16 June 2018 – According to a study to be presented at EuroPerio9, the world’s leading congress in periodontology and implant dentistry, just four weeks of a healthy diet can significantly reduce gingivitis (1).

Gingivitis is the inflammation of the gums. Bleeding gums, swelling and difficulty chewing are the primary symptoms of gingivitis. If left untreated, it can lead to periodontitis. Gingivitis has many causes, such as the build up of bacteria in the spaces between the gums and the teeth.

“Previous research (2) has shown a pronounced effect of dietary interventions on gingival inflammation. These studies showed no correlation between plaque and gingival inflammation, so this was quite revolutionary. However, the mechanisms behind this are broadly unknown. Since we know that there is an association between systemic inflammatory parameters like CRP, IL-6 and TNF-a, we wanted to find out how an oral health optimised diet could affect both periodontal and systemic inflammation,” explained lead author, Dr Johan Wölber, from the Department of Operative Dentistry and Periodontology, Centre for Dental Medicine, University Medical Centre Freiburg, Germany.

“To do so, we conducted a randomised clinical trial using the design of our previous study (2), with one group of patients asked to follow a special diet low in processed carbohydrates and animal proteins, but rich in Omega 3-fatty acids, vitamins C and D, antioxidants, plant nitrates and fibers,” said Dr Wölber. “People in the control group did not change their eating habits, following a common Western diet rich in processed carbohydrates and saturated fatty acids, and low in micronutrients. We asked both groups not to clean between their teeth during the study. We assessed the clinical periodontal parameters and systemic inflammatory parameters at baseline and after four weeks.”

Commenting on the results, Dr Wölber said: “We were amazed to find that - after only four weeks - a healthy diet substantially reduced inflammation of the gums. On the whole, we found a significant reduction of gingivitis of about 40% which was, like in the previous study, significantly different from the control group – without interdental cleaning. Regarding the serological parameters, we saw no differences between the control and experimental group, except a significant increase of vitamin D in the group eating healthily. In other words, an optimal diet seems to influence early gingivitis, before systemic inflammation sets in.”

When asked about the next steps, Dr Wölber expressed that he hopes to validate these findings in larger studies, over a longer time. “We will also be carrying out microbiome analysis, to see what happened to the supra- and subgingival plaque.”

Regarding a “take-home” message for patients and professionals, Dr Wölber said: “For patients, it seems clear that a Western diet drives inflammation. This study shows that a change of diet is good for patients with gingivitis, but it may also prove

to be favourable for patients with periodontitis. The optimal diet consists of avoiding processed carbohydrates (such as sugar or white flour), saturated and trans-fatty acids, while increasing micronutrients from plants, Vitamin D, Omega-3 fatty acids, fibers and plant nitrates. Due to the low content of processed carbohydrates, this diet also helps prevent caries and promotes weight loss.”

Dr Wölber concluded: “Oral health professionals should feel confident in recommending a healthy diet to their patients, in the same way that they promote oral hygiene, because it will benefit both oral and general health.”

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Notes to Editors

References:

1) EuroPerio9 abstract PD019: The effect of an oral health optimised diet on periodontal and serological parameters. A randomized controlled trial. Johan Wölber. Session on Adjunctive Periodontal Therapies, 20 June 2018, at 15:45 CEST.

2) Woelber, J. et al. (2016). An oral health optimized diet can reduce gingival and periodontal inflammation in humans - a randomized controlled pilot study. BMC Oral Health. 17. 28. 10.1186/s12903-016-0257-1.

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About the EFP

The European Federation of Periodontology (EFP) is an umbrella organisation of 30 national scientific societies devoted to promoting research, education and awareness of periodontal science and practice.

It represents more than 14,000 periodontists and gum-health professionals from Europe, northern Africa, and the Middle East.

About EuroPerio9

EuroPerio is the world’s biggest scientific meeting devoted to periodontology. The most recent of these triennial meetings, EuroPerio8, took place in London in June 2015 and brought together almost 10,000 people. EuroPerio9 will take place from 20 to 23 June 2018 at the [RAI](#), Amsterdam, The Netherlands.

Abstract PD019: The effect of an oral health optimized diet on periodontal and serological parameters. A randomized controlled trial.

a) Periodontology / Antimicrobial and anti-inflammatory therapies

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Background & Aim: Periodontal diseases seem to be influenced by nutrition. Aim of this study was to investigate the influence of an oral health optimised diet on periodontal and serological parameters in patients with gingivitis.

Methods: Thirty patients were randomly allocated to an experimental group and a control group stratified by their plaque values. The experimental group had to change to a diet low in processed high-glycemic carbohydrates and animal proteins, and rich in omega-3 fatty acids, vitamin C, vitamin D, antioxidants, plant nitrates and fibers for four weeks. The control group did not change their diet. Both groups suspended to interdental cleaning during the study. Periodontal parameters (GI, PI, BOP) were assessed by a blinded dentist using a pressure-sensitive periodontal probe. Measurements were performed after one and two weeks without a dietary change (baseline), and after two weeks of a transitional period, weekly for four weeks. As serological parameters, IL-6, TNF- α , hsCRP, adiponectin, vitamin D, omega-6 and omega-3 fatty acids were measured (baseline and after four weeks).

Results: While there were no significant differences regarding the plaque values, the experimental group showed a significant reduction in gingival bleeding (GI Baseline: 1.04 ± 0.21 , GI End: 0.61 ± 0.29) which was significantly different to the control group ($p < 0.05$). Furthermore, the experimental group showed a significantly higher increase in Vitamin D values and significant weight loss. There were no inter-group differences regarding BOP, the inflammatory serological parameters or the serological omega fatty acids.

Conclusion: An oral health optimised diet can significantly reduce gingival inflammation in a clinical relevant range and induce weight loss, while serological inflammatory parameters seem to be unaffected.