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DENTAL SPECIALTIES | PERIODONTICS

This diet may be an ally in fight against gum disease

This diet paired with the standard nonsurgical periodontal therapy may reduce the body's inflammatory response to gum disease, according to a press release from King's College in London.

By — Karie Neeley Anderson

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A fasting-mimicking diet (FMD) paired with the standard nonsurgical periodontal therapy may reduce the body's inflammatory response to gum disease, according to a press release from King's College in London.

The low-calorie diet that induces a fasting-like state while providing essential nutrients appeared to be linked with lower levels of key inflammatory biomarkers, according to the release.

Prior evidence has shown that a FMD sets off systemic responses similar to fasting, including reduced inflammation and tissue repair, without the hunger pangs of fasting and with greater compliance.

To test the feasibility of a FMD on the systemic and periodontal response following nonsurgical periodontal therapy, researchers recruited 20 people with severe periodontitis. Patients received either the standard periodontal treatment or a five-day FMD plus the treatment.

Blood and gingival crevicular fluid (GCF) samples were collected on days one and seven and three months post-treatment and evaluated for inflammatory biomarkers, researchers said. Patients also kept food journals, which were evaluated for compliance.

Of the 19 who completed the study, FMD patients showed a non-statistically significant serum concentration of high-sensitivity C-reactive protein (hs-CRP), a protein found in blood that corresponds with systemic inflammation, of 0.20 ± 0.30 mg/l. In non-FMD patients, hs-CRP levels were 0.11 ± 0.52 mg/l ($p = 0.632$). Additionally, lower levels of matrix metalloproteinase-8, interleukin (Il)-6, and Il-beta were noted in the GCF of fasting patients one day post-treatment, according to the researchers.

Minimal adverse effects were reported, including nausea, fatigue, weakness, and dizziness. There were no differences in patient-reported outcome measurements, but further studies are needed, according to the release.

"This study suggests that one cycle of adjunctive FMD is feasible and may modulate the inflammatory response post-non-surgical periodontal therapy," co-lead authors Luigi Nibali, PhD, MSc, and Dr. Giuseppe Mainas of King's College London and colleagues wrote (*J Dent*, February 19, 2025, Vol. 156, 105644).
