Orthodontists have been straighten- ing teeth for decades relying on the ancient physics principle “every action has a reaction,” in which tooth displacement in one part of the jaw causes movement on the other as well.

Use of dental implants as ortho-dontic anchors, however, is chang- ing that principle by expediting treatment times and expanding pos- sibilities for previously untreatable cases, according to research pre- sented at the American Academy of Implant Dentistry Annual Scientific Meeting in San Diego.

“Dental implants are changing the way orthodontics is being prac- ticed,” said Frank Celenza, DDS, associate clinical professor, New York University College of Dentistry. “In conventional orthodontics, teeth are used to move other teeth, but implants can serve as excellent anchors from which force is applied to move the targeted teeth without causing shifts in other teeth.”

In his plenary session presenta- tion, Celenza explained that the use of implants as sources of orthodontic anchorage is a powerful technique that has just begun to be explored.

“In our studies, we’re already see- ing cases in which implants simplify and streamline orthodontic therapy, decrease treatment times, and elimi- nate dependence on patient compli- ance in making adjustments and wearing orthodontic appliances,” Celenza said. “Because the anchor systems are so much more pre- dictable and stronger when implants are incorporated, the temporal sequencing of tooth movements is eliminated and teeth can be moved en masse or all together. Conse- quently, treatment times easily can be reduced by a third.”

Celenza added implants can be used in any orthodontic case that requires tooth replacement, as well as for fully dentate patients.

“Cases progress faster when implants are used as anchorage but not because teeth are subject to higher force levels. Rather, it is the result of a more efficient appliance design that provides the ability to move multiple teeth simultaneously rather than individually, as is neces- sary in conventional orthodontics.”

Dental implants also make it pos- sible for some patients to receive orthodontic treatment that previous- ly would not be feasible.

“Patients with severe orthodontic deformities now can be reevaluated to determine if orthodontic dental implants could provide successful outcomes,” Celenza said.

Commenting on the significance of the research, AAI President Jaime Lozada, DDS, said the ortho-dontic implant application further underscores the versatility of dental implants for both restorative and cosmetic dental procedures.

Inflammation: Connecting the mouth and body?

Research suggests chronic inflammation links gum disease to other disease states

Brush after every meal. Floss daily. See your dental professional regularly. These instructions make sense coming from your dentist to help you sustain your oral health. But now not only dentists, but also many physicians, are stressing the importance of maintaining oral health in an effort to keep the rest of the body healthy.

Research has long suggested an association between gum disease and other health issues, including heart disease, stroke and diabetes, but now scientists are beginning to shift their focus to understanding why these connections exist. An emerging theory, and one gaining support from researchers world- wide, is that inflammation may link the mouth to the body.

Inflammation is the body’s instinctive reaction to fight off infec- tion, guard against injury or shield against irritation. Inflammation is often characterized by swelling, red- ness, heat and pain around the affected area. While inflammation initially intends to heal the body, over time, chronic inflammation can lead to dysfunction of the infected tissue, and therefore more severe health complications.

According to Dr. Susan Karabin, past president of the American Academy of Periodontology (AAP) and a practicing periodontist in New York City, periodontal disease is a text-book example of an inflammatory disorder.

“For many years, dental profes- sionals believed that gum disease was solely the result of a bacterial infection caused by a build-up of plaque between the teeth and under the gums. While plaque accumula- tion is still a factor in the develop- ment and progression of gum dis- ease, researchers now suspect that the more severe symptoms, namely swollen, bleeding gums; recession around the gum line, and loss of the bone that holds the teeth in place, may be caused by the chronic inflammatory response to the bacte- rial infection, rather than the bacte- ria itself.”

Periodontists hypothesize that this inflammatory response to bacteria in the mouth may be the cause behind the periodontal-systemic health link. Many of the diseases associated with periodontal disease are also consid- ered to be systemic inflammatory disorders, including cardiovascular disease, diabetes, rheumatoid arthritis, chronic kidney disease and even certain forms of cancer, suggesting that inflammation itself may be the basis for the connection.

“... gum disease sufferers are at a higher risk for other diseases, making it more critical than ever to maintain periodontal health in order to achieve overall health.”

“More research is needed to pin-point the precise biological mecha- nisms responsible for the relationship between gum disease and other disease states,” Karabin said. “How- ever, previous findings have indicat- ed that gum disease sufferers are at a higher risk for other diseases, making it more critical than ever to maintain periodontal health in order to achieve overall health.” To avoid gum disease, Karabin recommends comprehensive daily oral care, including regular brush- ing and flossing, and routine visits to the dentist. If gum disease develops, a consultation with a dental profes- sional, such as a periodontist, can lead to effective treatment. Patients diagnosed with gum disease should also disclose all health conditions to their dental professionals, and be sure to update other health care profes- sionals on their periodontal health.

A recent supplement to the Jour- nal of Periodontology highlighted current discussions between dental professionals and health care profes- sionals on the role of oral inflamma- tion in the progression of other dis- ease states. As research continues to emerge that supports the mouth-body connection, the more vital it becomes that both dentists and physicians work together to ensure the most comprehensive wellbeing for their patients.

(Source: American Academy of Periodontology)

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(Source: BIOMET 3i)