The Aging Periodontal Patient

According to the U.S. Census Bureau, there are 8,000 people per day (in the U.S.) reaching the age of 65. In the coming years the number of individuals 65 and older will increase from 35 million to more than 70 million. In the last century the three major causes of death were pneumonia, tuberculosis and dysentery. Now, the top causes of death are heart disease, cancer and stroke. As we have eliminated acute infection as a major cause of death we see chronic diseases rising as people age. Each of these diseases has a strong inflammatory component associated with them. In fact, a recent study released this year indicates that up to one-third of all cancers are associated with chronic systemic inflammation. People are living longer with more chronic diseases, taking more medications than ever before in history. They see themselves not only living longer but living better. This aging population sees no limits in function or aesthetics as they age and they will have the financial resources to demand state-of-the-art solutions.

However, consider that almost 30 percent of the population is either diabetic or pre-diabetic. These individuals demonstrate increased elevations in inflammatory mediators such as C-reactive protein and tumor necrosis factor. Two out of three of those affected will die of a cardiovascular event. They exhibit what has been termed a “pro-inflammatory state” and might be genetically predetermined to produce these inflammatory mediators as they age.

Cardiovascular diseases such as myocardial infarction and stroke also have a strong inflammatory component associated with their development. Many people who have a cardiovascular event demonstrate normal to below normal cholesterol and lipid levels. Yet they all have an above normal level of circulating inflammatory mediators such as C-reactive protein.

The Changing Face of Periodontal Disease

Because periodontal disease has a strong association with bacterial plaque, we have equated plaque with disease. If a patient demonstrated disease or disease progression there were only two explanations: either the patient was not performing adequate plaque control or we failed to adequately debride the sub-gingival environment. It was a very simple explanation of disease, but a naïve one.

The association of plaque with the progression of disease is very strong with gingivitis but breaks down with periodontitis. We know that not all gingivitis progresses to periodontitis and that the severity and progression of periodontitis is not dependent on the amount of plaque. The type of bacteria is a determinant of disease and an individual’s inflammatory response is essential in the initiation and progression of periodontal
diseases. For example, we know that for a certain subset of the population, those that have a genotype to produce high levels of an inflammatory mediator, interleukin (IL-1), given a bacterial challenge, have a much greater chance of developing severe periodontitis than those who do not have this genotype. If you begin to look at those affected by other chronic inflammatory diseases such as diabetes and cardiovascular disease you will find the same inflammatory mediators as you do in periodontitis such as C-reactive protein, interleukin and tumor necrosis factor. Those that have high bone loss scores found in periodontitis have been shown to have twice the rate of myocardial infarction and almost three times the odds of stroke. Diabetes has been linked to obesity, tumor necrosis factor and periodontitis. The mouth seems to have been reconnected to the body.

Enlisting the Team Approach

Periodontal disease might indeed have more impact on systemic health than we ever thought possible. Our patients are becoming older and more complex than ever. Therefore, the team approach to care is more important than ever and we are likely to see this approach dominant in all of health care. As a patient ages, he or she is more likely to enlist a team of doctors as the number and severity of diseases manifest.

The team approach in dentistry is more important than ever before as periodontists seek to partner with general dentists to help manage risk and provide regenerative therapies to enhance the restorative effort toward natural teeth and through the use of dental implants. Together the general dentist and the periodontist can provide therapies that enhance function and aesthetics while managing inflammatory risk for an aging population.

Because of the information age, patients are better informed and are beginning to understand that they are not healthy unless they are periodontally healthy. In addition they do not see tooth loss as an inevitable consequence of age. Restorative dentistry can give them the function and aesthetics they seek, and periodontists can provide a healthy, enhanced hard and soft tissue framework to support their efforts for optimal patient outcomes.

Below I share two areas where I believe the team approach is particularly effective, especially when dealing with an aging patient base. These are the essential components of collaborative patient care, where periodontists and general dentists can and should work together to not only build mutually respectful relationships, but also to develop sound treatment plans, and ultimately, offer predictable and successful treatment outcomes to their patients.

The Comprehensive Periodontal Evaluation – The Clinical Dashboard

Recent data released by the Centers for Disease Control (CDC) and the American Academy of Periodontology (AAP) suggests that the prevalence of periodontal disease in the United States might have been underestimated by as much as 50 percent. A more complete analysis of the data, as collected in the 2009-2010 National Health and Nutrition Examination Survey (NHANES) is expected in early 2012. However, these preliminary results demonstrate there are many more patients living with periodontal disease than originally thought.

It is crucial that general dentists and periodontists prevent and manage periodontal disease as early as possible. This means that every patient should receive a comprehensive periodontal evaluation on an annual basis. The entire dental team shares responsibility for conducting the comprehensive periodontal evaluation, which necessitates good communication between the periodontist and the general dentist.

According to the AAP, the comprehensive periodontal evaluation should include:

- An extra- and intra-oral evaluation
- A thorough occlusal evaluation
- Assessment of the presence, degree and distribution of plaque, calculus and gingival inflammation

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• Probing six sites per tooth
• An assessment and documentation of recession and attachment loss around teeth
• A radiographic evaluation of bone loss and identification of vertical defects and furcation involvements
• An assessment of patient associated risk factors such as age, smoking and other chronic systemic conditions associated with development or progression of periodontal disease or systemic inflammatory burden

As dental professionals, we each have a stake in reducing the prevalence of periodontal disease, and we can do so by identifying those patients who can be effectively treated by the general dental team, and those who would likely benefit from periodontal specialty care early on. The comprehensive periodontal evaluation provides a way for general dentists and periodontists to have a collective understanding of the treatment needs of their shared patients.

Not all periodontal cases are the same and therefore cannot all be managed the same. I believe treatment teams, general dentists and periodontists have the responsibility to determine how, when and who. This protocol is best developed through a one-on-one dialog.

Evidence-Based Treatment Methodologies – The Therapies of the Future

Periodontal disease treatment options have evolved dramatically over the past several years, and I believe the dental industry will continue to see a shift toward evidence-based therapies. For example, clinically proven advancements in periodontal bone and soft tissue regeneration have enabled countless patients to regain health, function and aesthetics for their natural teeth. Periodontists have embraced the latest advances in dentistry in their efforts to save teeth, including
• growth factors and biologics
• bone grafting
• biologic membranes
• root coverage techniques
• functional and aesthetic crown-lengthening procedures
• anti-microbial and anti-inflammatory pharmaceuticals
• newly designed instrumentation

In addition, dental implants are another therapeutic advancement often incorporated into periodontal treatment in an effort to compliment periodontal reconstruction. However, we must realize that dental implants are not impervious to disease as periodontists are increasingly called upon to manage peri-implantitis and other hard and soft tissue complications.

By mastering these innovative treatment modalities, periodontists are able to provide the full-scope of periodontal therapy. This is another way that a collaborative relationship with the general dentist is so important to periodontists. It is often the general dentist that identifies the patients that would benefit from these courses of treatment. Together with the periodontist, general dentists can develop treatment plans that give patients the best opportunity for long-term success in managing disease while meeting patient-driven treatment goals.

How fortunate we are to participate in helping the aging population view themselves as ageless. How lucky we are to be dentists.

Author's Bio

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