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Question:

What are your current protocols for managing patients with high caries susceptibility?

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Dr. Sesemann

As the first point of action in our office, my staff and I became familiar with CAMBRA (Caries Management by Risk Assessment).¹ It is important for the entire staff to be able to articulate what is currently the best science about caries activity to help our patients understand the etiology and achieve the highest levels of oral health. CAMBRA represents an effective medical model for caries management in the dental office. The goal is to identify those patients at most risk for the disease, as well as their accompanying risk factors, so that an appropriate course of therapy may be instituted to create good oral health and prevent future disease.

Upon a diagnosis of high caries susceptibility, our first mode of action is to educate the patient about the disease process and the role of biofilm in the susceptible individual. Proper daily hygiene is expected and taught where applicable. Any current active lesions are eliminated through restoration. Sealant placement with a stringent protocol of isolation, microabrasion, acid-etching, and fluoride-releasing sealant material is used. Fluoride gel and/or varnish (5% NaFl varnish) applications are performed at 3- or 6-month intervals.

Raising the oral pH is imperative to make the environment unfriendly for caries-associated bacteria (*Streptococcus mutans* and *lactobacilli*). We use the CariFree[®] rinse product (Oral BioTech, www.carifree.com), including both the treatment (first 30 days) and the maintenance rinses. In addition, we will recommend adjunctive products such as Colgate[®] PreviDent[®] 5000 (Colgate-Palmolive, www.colgateprofessional.com) for daily use, especially if the patient has a tendency toward xerostomia. With some extreme xerostomia patients who have no saliva—such as medically compromised patients who have graft vs host disease—high-fluoride prescription toothpastes are imperative. Xylitol products are also suggested; however, with proper caution if the patient lives with pets as xylitol ingestion by a pet can be deadly.

With these associated efforts, we have found that we have been successful limiting and/or stopping the initiation of decay in the high-risk patient as opposed to losing ground by fighting the reactive battle of treating caries after it has occurred.

Dr. Comisi

First of all, and most obvious, the management and control of the biofilm in the oral cavity must be addressed. Incorporating effective, gentle physical removal of this biofilm is an important starting point. And this must be taught to the patient; and we cannot presume that they understand exactly what they must do. They must be able to demonstrate proficiency.

Next, evaluating and managing any salivary deficiencies must be incorporated into the dental protocol. If there is a reduction in saliva production, due to natural or chemically induced circumstance, then this must be overcome. Medically induced xerostomia (MIX) is probably one of the most common problems for many of our patients but, unfortunately, it is not always fully appreciated or investigated by the dental care provider. MIX will create and enhance the lowering of the oral pH that will be created by this intraoral biofilm. This lowering of the pH will then contribute to the growth of acidogenic bacteria, which then will enhance the growth of cariogenic bacteria, thereby decreasing the protective commensals in the oral cavity and then enable the overgrowth of cariogenic bacteria.

Consultation with the patient's medical care providers is essential so that they are aware of the challenges the medications are creating. Some conventional ways of trying to reestablish a more natural pH is the use of oral moisture and mineral-restoring products such as Biotène[®] and Biotène Oral Balance (GlaxoSmithKline, www.gsk.com), MI Paste[™] (GC America, www.gcamerica.com), and PreviDent 5000.

Using a chlorhexidine varnish, such as Ivoclar Vivadent's Cervitec[®] Plus (www.ivoclarvivadent.com) should also be considered. With its chlorhexidine and thymol ingredients, which aid in the destruction of the cariogenic bacteria, Cervitec[®] Plus is considered the "next generation" of protection for at-risk, exposed tooth surfaces. It is applied like a fluoride varnish to help eliminate the cariogenic bacteria. Then remineralization of the damaged tooth structure can be done with conventional fluoride varnish and later restored with materials that can further contribute to the remineralization of the dental structures, such as glass ionomer, resin-modified glass-ionomer, or giomer restorative materials.

Dr. Varallo

The ADA urges dental and medical professionals as well as the general public to recognize that children's teeth are susceptible to decay as soon as they begin to erupt. Reviewing the medical and dental history with the child's parent or caregiver allows the dental team to collect data on medical and dental issues, past and present. This helps give the team perspective on where the family values are concerning general and oral health. The assessment of health attitudes in the family setting and local community is the most important tool against early child caries.

During the first phase of the clinical appointment, the dental team charts decayed, missing, and filled teeth (DMF). If the child is determined to be in a high-risk category, several steps are taken. Teeth are assessed for the following: whether the surface is rough or smooth; whether there is active or inactive decay; and whether the lesions are reversible or restorable. If rampant caries is determined, an oral bacterial assessment (ie, *Streptococcus mutans*) as well as vitamin D tests and coordination of fluoride-containing supplements via the child's pediatrician is recommended.

A review of the child's home-care history, plaque removal, daily 48-hour diet assessment, the patient's requirements (eg, dexterity, maturity, responsibility, and parental involvement), and fluoride exposure are evaluated. The patient is placed on a 90-day re-evaluation schedule. The treatment plan is customized for the patient and the individual teeth being restored. Restorative materials are placed depending on the location and severity of the decay being replaced, followed by placement of dental sealants where necessary. We "sterilize" occlusal pits with a hard tissue laser prior to sealant placement.

Once the patient is caries/disease free, cavity varnish is applied. Prescription fluoride toothpaste is recommended. At the 3-month hygiene re-evaluation, we continue to reinforce the concept of "healthy mouth, healthy body" at any age.

Reference

1. Young DA, Kutsch VK, Whitehouse J. A clinician's guide to CAMBRA: A simple approach. *Compend Contin Educ Dent*. 2009;30(2):92-98.

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